

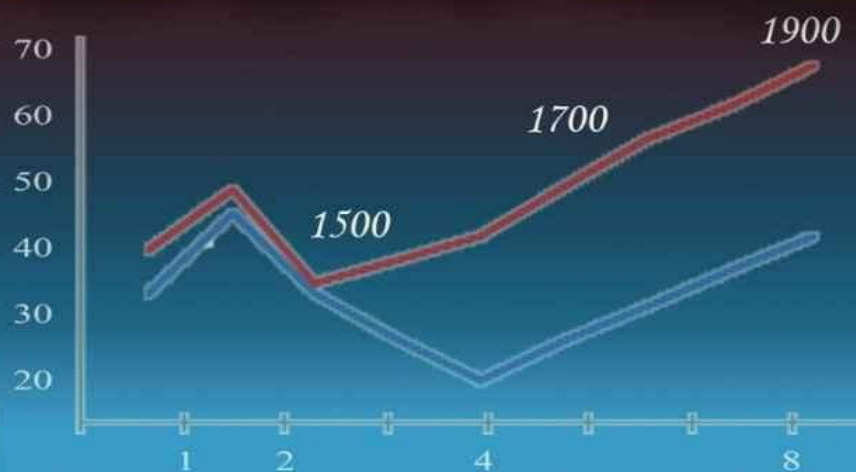
Test, Evaluate and Improve Your Chess

A Knowledge- Based Approach

3rd Edition



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By
IM Danny Kopec, Ph.D.
& NM Hal Terrie

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Test, Evaluate, and Improve Your Chess A Knowledge-Based Approach

Third Edition, 2013

by
IM Dr. Danny Kopec
and
NM Hal Terrie

Test, Evaluate and Improve Your Chess: A Knowledge-Based Approach

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To my Parents,
Magdalena and Vladimir Kopec,
for their support.

-D.K.

To Charles Baden,
who taught me most of what
I know about chess.

- H.T.

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What's New in the Third Edition?

With this edition we have added five new tests and 122 new positions. We feel that our previous edition, with seven tests and 182 positions had essentially accomplished most of our objectives - which were to test as many concepts as we felt important at the levels of Novice, Intermediate, and Advanced, with a focus towards distinguishing between the concepts of levers and tactics. We also tried to cover all phases of play. If one could criticize our tests, we felt that the phase of chess that people seem to worry about the most is the Opening. So for this edition we added four tests on the openings including: The Novice Openings Test (25 positions for players rated below 1500), The Intermediate Openings Test (26 positions for players rated 1500 - 2000) , The Advanced Openings Test (25 positions for players over 2000 to Senior Master), and the Super Advanced Openings Test (20 positions primarily from the praxis of players rated over 2700).

In addition, in 2006 we had already developed the K+P Endings Test (26 positions). The importance, subtleties, and beauty of King and Pawn Endings always seem to have been underestimated by most chessplayers. Since 2006 we have made some refinements to this test with the goal of developing a test which comprehensively represents all the relevant concepts in these endings. By no means are they easy.

The other major change with this edition is that we decided to reorganize the book so that instead of being in chronological order, the tests are now in the order of difficulty. That is, we start with the Novice Test and the Novice Openings Test, next move to the Intermediate and Intermediate Openings Tests and then on to the more difficult tests, ending the with Camp Test (the hardest test of the 2nd edition) and the Super Advanced Openings Test.

Finally, for this edition we rigorously checked all the positions with computer analysis. This led (with some embarrassment in a few cases) to a number of positions being revised or replaced, while in others the solutions had to be changed to reflect the harsh reality of the computer. However, we can now be confident that the level of accuracy in the solutions is quite high. In some very complex positions with corrected solutions, we have provided a kind of analytical history - the first human-only analysis, then the errors found by the computer and finally the synthesis of human and computer effort to reveal the correct evaluation.

ACKNOWLEDGEMENTS

Acknowledgements to the First Edition, 1997

I would like to take this opportunity to acknowledge those who have made this book possible. First, Professor Ivan Bratko, of the Josef Stefan Institute in Ljubljana for helping me to produce the original Bratko–Kopec Test. Second, Professor Donald Michie for being supportive of this kind of research in his lab during my six years there. Third, Professor Monty Newborn of McGill University and the chessplayers in Montreal who supported the research entitled “Experiments in Chess Cognition” leading to the New Positions Test.

All the people and programs who have taken our tests over the years contributed greatly to their development, especially the computer chess programmers who recognized the Bratko–Kopec Test as the standard test for many years. None of this work would have occurred without the cooperation of literally hundreds of enthusiastic chessplayers all over the world during the past 15 years.

I have greatly appreciated the continuing encouragement of my friends and colleagues Professors George Markowsky and Tony Marsland, as well as Dr. Hans Berliner and Professor Ed Northam for collaborating with me on the development of a “Taxonomy of Chess Concepts” which was the seed for our more recent tests. My Chairman at the U.S. Coast Guard Academy, Professor Richard Close also deserves acknowledgment for viewing this kind of work positively.

My co-author Hal Terrie, who has been a lifelong friend and supporter, deserves special recognition. Without Hal, this book would probably still not be in print, and if printed, would have been lacking in many ways. Hal added the NOVTEST and took care of many necessary details in producing a consistent and thorough effort. He has been a facilitator who has kept the project moving forward despite my occasionally fiery temper. In a manner of speaking, he stayed in the kitchen, despite the heat.

FM Jim Eade, our publisher, some 20 years ago saw the value of my knowledge-based approach to chess and had the vision to see the importance of this book, encouraging us to include that approach in all aspects of the work. M.L. Rantala was a dedicated and concerned editor who attended to all the necessary aspects of making this book as versatile and accurate as possible.

Finally, I would like to acknowledge my wife Sylvia, son David, and stepson Oliver for having the patience to allow this work to be completed.

—Danny Kopec, 1995

Acknowledgements to the Second Edition, 2003

The Second Edition was possible primarily through the efforts of Frank Niro and Glenn Petersen. Frank was Executive Director of the United States Chess Federation (USCF), a frequent guest at our chess camps and a genuine friend. Despite the fact that the USCF had moved out of publishing, Frank kept his word to get our book published as a USCF Publication. Glenn Petersen is acknowledged for beautifully typesetting our book and adding the idea of diagrams to reappear with the solutions.

We would also like to express our gratitude to Bill Hall, the current Executive Director of the USCF, for proving to be a man of his word. Bill and I were able to reach agreements regarding the book after its publication without ever having to sign anything.

We would like to acknowledge GM Reiner Knaak for preparation of the ChessBase CD based on the 2nd edition of our book.

We would also like to acknowledge David Kopec for developing the Iphone App “Chess Test” based on this book. It includes the Novice Test, Intermediate Test, and Bratko-Kopec Test with automatic scoring.

Finally, we would like to acknowledge the legendary GM Pal Benko (who sometimes joined us as special guest at our Camps) as well GM Lubomir Ftacnik (who worked with us at our Camps for many years), for finding improvements and suggestions related to several of our endgame positions.

—Danny Kopec, 2002

Acknowledgements for the Third Edition, 2013

The third edition has actually been in preparation for a number of years. The King and Pawn Endings Test has actually been ready since 2006 and we've only made a few tweaks to it since. One of our major concepts for this edition was to analyze the performance within position by the 500 or subjects whose data we have. Alas, this goal was only partially achieved in the work of Vitaly Repin, who as part of his computer science senior project analyzed the results of some 113 subjects on the Novice Test and the Intermediate Test. There is certainly more work that could be done to analyze the within-position performance of subjects at all levels – but that will have to wait.

The collaboration of Hal Terrie and me on this book is approaching a twenty year effort. Fortunately our approaches are somewhat complementary. Hal likes to work with the top computer programs and is very good at interpreting their analysis and describing what it means in terms of the test position, its value and the move that should be played. My interest is in finding/creating positions that represent knowledge-based concepts that we deem important in all phases of play at all levels. From this combined effort we have learned some very interesting things, even affecting our evaluation of positions in the second edition (2003). The solutions to some positions had to be modified, and , in some cases, the positions had to be entirely replaced. We think that this third edition will be easier for the serious student since the tests are presented in the order of level of difficulty as we perceive it. We believe that there will be valuable lessons in this edition for many years to come.

Finally, we want to thank Sajida Noreen for the effort she put in to produce the cover design and Shawn Sullivan of the House of Staunton for the image of the Frank Camaratta chess pieces used on the cover. Thanks also to Branon Sardine, for his help with a few critical technical elements in the final draft and to Daniel Kostovetsky for some useful suggestions.

Photo credits for back cover: D. Kopec photo by Brian Lawson;
H. Terrie photo by Steven Stepak.

—IM Dr. Danny Kopec, 2013

Introduction

By IM Dr. Danny Kopec

You might ask: “Who needs another chess quiz or test book?” So many excellent ones have been developed over the years; why should this one be necessary or be better than any other? My answer is another question: “How many relatively small (24 position) test sets do you know which can pinpoint your chess strength in about an hour?” Very few, and that is because too little thought has gone into determining the very specific components that comprise chess strength. There are many books which specifically test tactical motifs, which have you find all kinds of mates, and which test your ability to find forcing solutions to endgame positions or studies, but few which try to test and expand your knowledge in a holistic way. Furthermore, most tests are concerned with moves. In this book we will also be concerned with moves, not as ends in themselves, but rather as symbols for concepts or chess knowledge which can be represented by a move, sequence of moves, or pattern. Moves can be viewed as steps in a larger procedure which represents a plan or a grand theme. Hence our subtitle: “a knowledge-based approach.”

I feel that the attraction of chess is that it is one of the few arenas of life where you can, (and must) detach yourself from all the other demands of life just to think and compete. In playing chess we are betting on (or applying probabilities to) the value of our knowledge. Every move of every chess game is in effect such a bet. Two players share their knowledge on the chessboard and embellish it with calculation, bringing about a merciless struggle to achieve victory.

We often come across phrases in the chess literature like “conducting an attack” or “orchestrating an attack”. Chess allows each one of us the opportunity to become “conductors” and “orchestrators of forces”, even though we may never have entered an orchestral pit, and have no formal training as conductors.

That is the allure of chess. A fantasy world where humans quietly interact, compete, and discuss ideas, leading to great tension in the struggle to achieve victory and avert defeat.

The roots of this book began in 1980 when I developed a set of test positions with my then colleague, Dr. Ivan Bratko of the Machine Intelligence Research Unit of the University of Edinburgh. Our unit was headed by Professor Donald Michie. The idea was to demonstrate that computer programs lacked certain knowledge which is critical to strong chess players and is necessary for their advancement to the master level. During that time period much discussion centered around the relative merits of brute force methods versus selective search or heuristic methods. The 24 position test we developed became known among computer chess researchers as the “Bratko–Kopec Test” (BK–Test). This test was a standard for well over a decade in measuring the progress of computer chess programs. Many developers of computer chess programs (both commercial and academic) have used the concept of levers embodied in this test to improve their programs’ pawn play thereby bringing about a more sound strategical approach. The test has also proven extremely reliable as a way of measuring chess strength both for humans and computer chess programs. That is, your rating can be used to predict your score on the test, and your score on the test can be used predict your rating. The test has been administered to many human chessplayer subjects in various places in the world where I have lived including Edinburgh, Scotland (1980–82), Montreal, Canada (1983–84), San Diego, California (1984–86), Orono, Maine (1986–92), Ottawa, Canada (1992–93), and at my summer Chess Camp in Pomfret, Connecticut (1994–95).

During the course of these years the test has been administered in a number of forms. Even as early as 1980 we were able, with the help of a technician, to work with a chess TV display monitor. The

monitor was about 13-inches in size and facilitated administration of the test to about five people at once. In the early years, very eager to collect data for publication purposes, I would often administer the test to one person at a time—two minutes per position, 24 positions, multiple subjects being tested individually. This would easily take me many hours. Later we moved on to test booklets with each position diagrammed on a separate sheet. Here, had my research not been conducted at universities, the photocopying costs would have been prohibitive. A cheaper but more clumsy and tedious form of test administration made use of chess demonstration boards. Then, around 1993–95, I was able to test an entire class at once by using LCD plates to project computer screens on an overhead projector. Finally, direct projection of ChessBase images from a computer became possible.

In this book we make these tests available to the general chessplaying public. You have an opportunity to take and score yourself on twelve tests which have been specifically designed for you. We believe that there is an appropriate test for nearly everyone: there are test positions suitable for players of all levels covering all phases and most aspects of chess play—and after you take these tests, study the answers, and review your results, your chess will improve!

In January, 1983 I took a postgraduate academic position at McGill University in Montreal working with Monty Newborn, then Director of the School of Computer Science. The question which we set out to answer was “Are two heads better than one?” This question was addressed from both the computer and human perspectives (See Appendix 1: Experiments in Chess Cognition by Kopec, Newborn and Wu, 1985.) We asked, “How will the performance on a chess test set vary when you have two humans collaborating instead of just one working alone?” Naturally there are many ways that two humans could interact. Finally, we addressed the related question, “How does performance in chess vary with time?” That is, how will the performance of diverse levels of players vary if given 30 seconds, one minute, two minutes, four minutes, eight minutes to solve different test positions? Will stronger players distinguish themselves on the harder eight minute positions, or on the shorter, easier time-frame positions? The answers to these questions can be found in Appendix 1. The test positions (originally 25) primarily employed for this research were called “The New Positions”; they appear after the BK-Test in Chapter 3. A number of other positions used in our test sets are borrowed from the “Time Sequence Experiment” positions.

Chapter 8 is based on a set of 24 positions called the “Camp Test Positions”, devised in the summer of 1995. The idea behind this set of positions is the diversification of some of the concepts tested in Chapter 3. This test embodies the sum of our experience over many years in testing human and computer subjects. See Appendix 3 for a summary of Camp Test results from Kopec’s Chess Camp.

Since my initial introduction to the discipline of artificial intelligence (AI) while an undergraduate at Dartmouth College in 1973 and computer chess as an AI domain, it has been my research goal to demonstrate how critical domain-specific knowledge is to strong and correct chess play, particularly at the highest levels. Here the term “domain-specific knowledge” refers to knowledge which is specialized and required for the strong and correct play of the game of chess or any area where specialized knowledge is required for expertise. This special-purpose knowledge may or may not apply to any other intellectual activity. Like other domains where human expertise and excellence has been recognized, such as mathematics and music, chess proficiency does not just suddenly appear. It is based on years of study, learning and praxis.

In 1992 I was a consultant for Saitek International, a leading manufacturer of computer chess programs. It occurred to me that rook and pawn endings, which I estimate may occur as frequently as in one in six games at the master level or above, can be studied from a distinctly knowledge-based perspective. That is the basis of the Rook and Pawn Test of Chapter 5.

In order to round out the 2nd edition of this book, which had originally been organized to cover the three phases of chess as well as all the chess concepts we could reasonably identify, it was deemed

necessary to add another set of test positions. These are contained in Chapter 6: Other Endings.

Over the years it had become clear that the BK-Test and the New Positions Test had proved to be effective in evaluating chess strength for humans and machines in general. However with relative novices rated less than 1500, the test is not so effective in distinguishing how strong these players actually are and what they really know and don't know. That is because players rated around 1500 are not expected to score much more than 5 on the BK-Test. A score of this magnitude cannot be very revealing.

Therefore, before Kopec's Chess Camp in the summer of 1995 it was decided that a new test set should be designed specifically for players who were rated 1500 and less. Hal Terrie developed this test called "The Novice Test" and it is the basis for Chapter 1. After administering this test to novice subjects at Kopec's Chess Camp in 1995 and to private students, Mr. Terrie has determined that the test is quite valuable for players rated as high as 1700.

It has been known for a long time that from a given position humans only search somewhere between fifty and at most two hundred positions (deGroot, 1965) while all successful attempts at programming a computer to play strong chess have involved searching or analyzing thousands, millions, and today, many billions of possible positions. So the ever-present question is: "How is it that top humans can play better chess than the top computer chess programs, even though they look at relatively so few positions?" The answer is that humans use pattern-recognition to compensate for their deficits in short-term memory and calculational power. It was deGroot, Chase and Simon (1972) and Nievergelt (1977) among others, whose research provided further evidence for this point of view.

Artificial intelligence and cognitive science are concerned with knowledge representation. The focus is how knowledge is acquired, represented, misrepresented, stored, translated, changed and misused. Attempts to measure the value of a "chunk" of knowledge against more search (in terms of depth and/or breadth, and consequently the number of overall positions considered) naturally follow from research in computer chess. Computer chess program development has shifted from decidedly "selective" search approaches (where depth and breadth of search is sacrificed for knowledge) in the 1970s to brute force implementations (where search is exhaustive to the greatest depth possible in a fixed amount of think time) in the 1980s. The field shifted to more balanced hybrid methods in the 1990s. Nonetheless, although knowledge and software efficiency remain highly valued, huge multimillion node searches are still the standard.

The BK-Test served for many years as a standard for evaluating the strength of computer chess programs. In fact many programs have been trained on the test set as a measure of their suitability and preparation for tournaments. This book has emerged from the understanding that as computer chess programs approach the ultimate goal of the World Championship, we approach a unique time when humans may learn from computer chess programs and vice-versa. In 1990 research I conducted with Berliner and Northam, our real goal was the development of a "Taxonomy of Chess Concepts". That has not been fully achieved, and in a sense can never be achieved, at least not from a compilation by humans (by hand). However this book and its tests do address the essential components of the game of chess.

While computer programs have now clearly exceeded the highest levels of human performance, I believe that there will always be a space of the game of chess which humans understand better than the best computer chess programs. That space of the game will be decidedly knowledge-based in nature. The kind of knowledge that a 20 ply (10 move) exhaustive search could not compensate for. I am confident that you will find at least some of the test positions and concepts in this book fitting this prescription. This reinforces the notion that a special time has arrived when a genuine symbiosis exists: humans can learn from machines and machines can learn from humans.

Chapter 1

The Novice Test

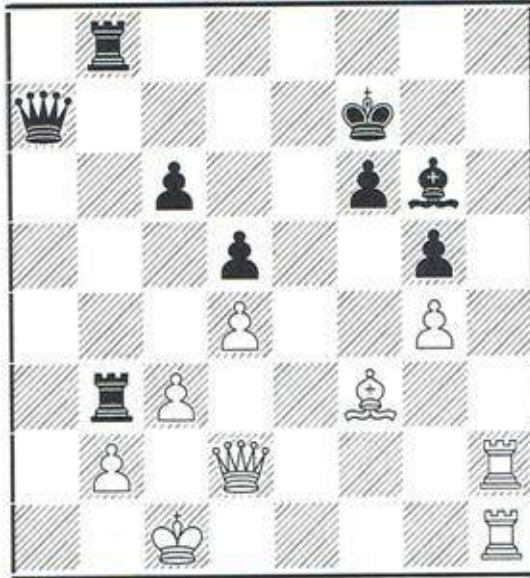
Instructions for taking this test

You are allowed two minutes for each of the positions in this test. In each position, select the one move you think is best. In some positions, more than one move will be accepted as correct. Your score will be based on the total number correct. A full discussion of the scoring is at the end of the test.

Answer Sheet for Novice Test

Position Number	Best Move	Side to Move
1.		White
2.		White
3.		White
4.		White
5.		Black
6.		White
7.		Black
8.		White
9.		White
10.		White
11.		White
12.		White
13.		Black
14.		White
15.		White
16.		Black
17.		White
18.		White
19.		White
20.		Black
21.		White
22.		Black
23.		Black
24.		Black

1



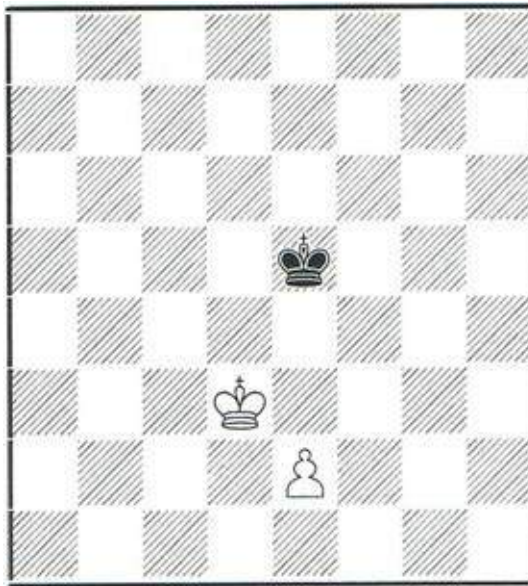
Novtest Position 1
White to move

2



Novtest Position 2
White to move

3



Novtest Position 3
White to move

4



Novtest Position 4
White to move

5



Novtest Position 5
Black to move

6



Novtest Position 6
White to move

7



Novtest Position 7
Black to move

8



Novtest Position 8
White to move

9



Novtest Position 9
White to move

10



Novtest Position 10
White to move

11



Novtest Position 11

White to move

12



Novtest Position 12

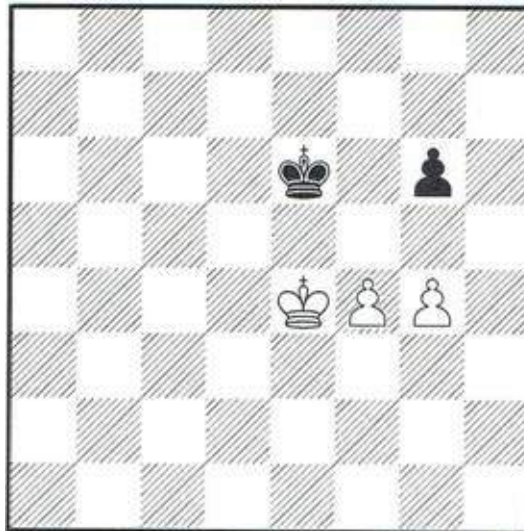
White to move

13



Novtest Position 13
Black to move

14



Novtest Position 14
White to move

15



Novtest Position 15
White to move

16



Novtest Position 16
Black to move

17



Novtest Position 17
White to move

18



Novtest Position 18
White to move

19



Novtest Position 19
White to move

20



Novtest Position 20
Black to move

21



Novtest Position 21
White to move

22



Novtest Position 22
Black to move

23



Novtest Position 23
Black to move

24



Novtest Position 24
Black to move

Solution Key for Novice Test

Position Number	Side to Move	Phase of Game	Level of Difficulty	Solution(s)
1.	W	M	1	1 Rh7+
2.	W	O	1	3 Nf3, 3 Nc3, 3 d3
3.	W	E	3	1 Ke3
4.	W	O	1	5 0-0,5 d3
5.	B	M	3	1...Rg1+
6.	W	E	2	1 Bxd6
7.	B	M	1	1...Qh3#
8.	W	O	3	6 e3, 6 Nf3, 6 Qc2, 6 Rc1
9.	W	E	2	1 Rd1
10.	W	M	1	1 Rd8+
11.	W	O	3	11 Bxf6
12.	W	M	2	1 f6
13.	B	O	1	7...bxc6
14.	W	E	3	1 g5
15.	W	O	1	9 Bxf7+
16.	B	M	3	1...Ra1+
17.	W	E	2	1 g4
18.	W	O	2	8 Bxc6
19.	W	E	1	1 Rc1,1 Ra1
20.	B	M	2	1...f4
21.	W	O	1	5 Bd3,5 Nc3
22.	B	E	2	1...Rb2
23.	B	M	3	1...Rxd1+
24.	B	E	2	1...Nf4

Discussion and Scoring: The Novice Test

As mentioned in the general introduction, the Novice test was developed by Hal Terrie for the Kopec Chess Camp, to test players whom we felt, based on previous experience, were not strong enough to benefit from the more advanced tests in this book. Between 1995 and 2009, the test was administered to hundreds of campers. The results have confirmed the correlation between score and rating originally proposed.

Score	Rating
21–24	1500 or higher
18–20	1350–1500
14–17	1200–1300
11–13	1100–1200
7–10	1000–1100
under 7	below 1000

You can evaluate your performance on the test not only from the total number correct but also based on phase of the game and difficulty of the positions. There are eight positions each in the opening, middlegame and endgame. The positions are also assigned a level of difficulty, from one (easiest) to three (hardest). Thus, for instance, doing well on level three middlegames but poorly on level two and three endings would mean that tactics are good but you lack essential endgame knowledge; a reverse performance would mean tactics are weak and need study. And so on. In addition there is feedback in the solutions section on the type of chess theme or knowledge being tested.

Complete Solutions to the Novice Test

1

Novtest Position 1



Skewer Wins Queen

1.Rh7+ Bxh7 2.Rxh7+ +-

Comprehensive Chess Course, Vol.2. #375, (modified).

2

Novtest Position 2



Development (C23)

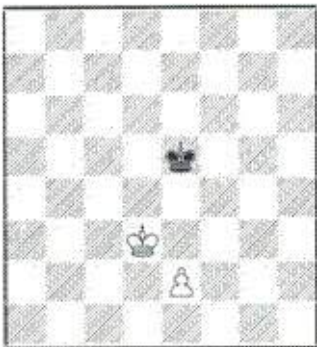
(1. e4 e5 2 Bc4 Bc5) Acceptable moves:

3.Nf3 3.Nc3; 3.d3; but not 3.Qf3 or 3.Qh5. It is important to develop the minor pieces first, before considering Queen moves. The move 3.Qe2 is a decent move, known to theory. However, it is not accepted here as a correct answer because this test is for novice players, who should be discouraged from making early queen moves.; 3.c3 is another decent move (for more advanced players) which is not accepted here as a correct answer because it does not develop a piece.

3

Novtest Position 3

Opposition



1.Ke3 The only way to win. In order to win an ending with King and one pawn vs King, the superior side must (1) be in front of the pawn AND have the opposition.

1...Kd5 2.Kf4 Ke6 3.Ke4 Kd6 4.Kf5 Ke7 5.Ke5 Kd7 6.Kf6 Kd6 7.e4 Kd7 8.e5 Ke8 9.Ke6 Kd8 10.Kf7 +-

4



Novtest Position 4

Development (C55)

(1.e4 e5 2.Nf3 Nc6 3.Nc3 Nf6 4.Bc4 Bc5) Acceptable moves:

5.d3 Or **5.0-0**; Not 5.Ng5 which would be a wasted move after the normal developing move 5...0-0 when it would be very bad to consider trading two pieces for a rook and pawn with 6.Nxf7 (or 6.Bxf7+) 6...Rxf7 7.Bxf7+ Kxf7; As was the case in position #2, the move 5.Qe2 would be OK for a more advanced player but is not acceptable here, on a test for novice players.

5

Novtest Position 5



Knight Fork

1...Rg1+! **2.Kxg1 Nxe2+** → Knight fork. No credit for 1...Rg2 or 1...Nh3, which are also winning but not nearly as efficient as 1...Rg1+.

6

Novtest Position 6



Simplify When Ahead

1.Bxd6 +/- When ahead material in the endgame, always head for the simplest available position by exchanging the defending pieces. If White tries 1.Kd4 instead, then 1...Nc4 gives him real trouble. (Source: Hal Terrie composition, 1995)

7

Novtest Position 7



Mate in One

1...Qh3#

(Source: Bobby Fischer Teaches Chess, #44)

8



Novtest Position 8

Development/Calculation (D35)

(1.d4 d5 2.c4 e6 3.Nc3 Nf6 4.Bg5 Nbd7 5.cxd5 exd5) Acceptable moves:

6.Nf3, 6.e3, 6.Qc2, 6.Rc1. Not 6.Nxd5? Nxd5 7.Bxd8 Bb4+ 8.Qd2 Bxd2+

9.Kxd2 Kxd8 with a piece up.

9

Novtest Position 9



Seventh Rank

1.Rd1 1.Re1? allows Black to prevent White's rook from reaching the seventh rank by 1...Kf8 **1...Kf8 2.Rd7 ±**

(Source: Hal Terrie composition, 1995)

10

Novtest Position 10



Back Rank

1.Rd8+ Rxd8 2.Rxd8#

(Source: Bobby Fischer Teaches Chess, # 88, modified)

Novtest Position 11



In-Between Tactic Wins Piece (C64)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 Bc5 4.0-0 Nd4 5.Nxd4 Bxd4 6.c3 Bb6 7.d3 c6 8.Bc4 Nf6 9.Bg5 d6 10.Kh1 Bg4?) White can now win a piece:

11.Bxf6 (11.Qxg4 Nxc4 12.Bxd8 Rxd8) **11...Bxd1** (11...Qxf6 12.Qxg4 +-)

12.Bxd8 Be2 (12...Rxd8 13.Rxd1 +-) **13.Re1 Bxd3 14.Bxd3 Rxd8** and

White is a piece up.

Novtest Position 12



Sweeper/Clearance

1.f6! 1.Nh5 is not forceful enough - Black responds with 1...Qh4! and has chances to defend himself.**1...gxf6** (1...Qd7 2.fxc7 +-) **2.Nf5 +-** (Source: Hal Terrie composition, 1995)

Novtest Position 13



Only One Recapture (B57)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 Nc6 6. Bc4 Qb6 7.Nxc6)

Acceptable move: **7...bxc6** but not

7...Qxc6?? 8.Bb5

Novtest Position 14

Pawn Tempo/Opposition

1.g5 (1.f5+? gxf5+ 2.gxf5+ Kf6=)**1...Kd6** (1...Kf7 2.Kd5 Ke7 3.Ke5 Kf7 4.Kd6 Kf8 5.Ke6 Kg7 6.Ke7 Kg8 7.Kf6 Kh7 8.Kf7 Kh8 9.Kxg6 and wins.)

2.f5 Ke7! The best defense, forcing White to work for the win. (2...gxf5+ 3.Kxf5 Ke7 4.Kg6 Kf8 5.Kh7) The following analysis is by GM Lubomir Ftacnik:

3.f6+ The only move.(3.fxc6? Kf8 4.Kf4 Kg7 5.Kf5 Kg8 =) **3...Ke6 4.Kd4**



Kd6 5.Kc4 Ke6 6.Kc5 Kf7 7.Kd6 Kf8 8.f7! Employing the "6th rank rule." See also Position #8 in the K + P Test. **8...Kxf7 (8...Kg7 9.Ke7 Kh7 10.Kf6! [10.f8Q?? Stalemate!] 10...Kh8 11.f8Q+) 9.Kd7 Kf8 10.Ke6 Kg7 11.Ke7 Kg8 12.Kf6 Kh7 13.Kf7 Kh8 14.Kxg6 Kg8 15.Kh6** The only move to make immediate progress. Not 15.Kf6? Kh7 16.Kf7 Kh8 loses time. **15...Kh8 16.g6 Kg8 17.g7 +-**

15

Novtest Position 15



Tactic Wins Queen (B57)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 Nc6 6.Bc4 g6 7.Nxc6 bxc6 8.e5 dxe5)

Acceptable move:

9.Bxf7+ wins the queen: **9...Kxf7 10.Qxd8**

16

Novtest Position 16



Clearance

1...Ra1+ Not 1...Bxb3 when White gets an escape square with 2.cxb3. **2.Nxa1 Qa2#**

(Source: Winning Chess Tactics for Juniors, #283)

17

Novtest Position 17



Pawn Tempo/Opposition

1.g4 Once again, White uses a pawn tempo to gain the opposition.

(Source: Hal Terrie composition, 1995)

18

Novtest Position 18



Removing Defender Wins Pawn (C87) (1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0-0 Be7 6.Re1 d6 7.d4 0-0?)

Only acceptable move:

8.Bxc6 This wins a pawn after **8...bxc6 9.dxe5 dxe5 10.Qxd8 Rxd8 11.Nxe5**

19

Novtest Position 19



Queening/Back Rank

1.Rc1! Or 1 Ra1!

(Source: Hal Terrie composition, 1995)

20

Novtest Position 20



Lever

1...f4! An attacking lever which destroys White's position.

After 1...f4 if 2.gxf4 2...Qxh4+ (or 2.Qf3 f3g3+; *Finally if 2.Qd2 f3 wins a piece.*)

(Source: Hal Terrie composition, 1995)

21

Novtest Position 21



Development/Calculation (B40)
 (1.e4 c5 2.Nf3 e6 3.d4 cxd4 4.Nxd4 Nf6)

Acceptable moves:

5.Nc3 or **5.Bd3**; but not 5.e5?? Qa5+; If 5.Bg5 Qa5+ 6.Qd2 (or 6.Bd2 Qb6 with many threats.) Black can win a pawn with the tricky 6...Bb4 7.c3 Nxe4 8.cxb4 Qxg5

22

Novtest Position 22



Rook Behind Passed Pawn

1...Rb2 = Rooks belong behind passed pawns!

If 1...Rb8? 2.Rb1 ±

(Source: Hal Terrie composition, 1995)

23

Novtest Position 23



Overloaded Piece

1...Rxd1+! **2.Rxd1 Qxc3** Overload/Undermine.

(Source: Winning Chess Tactics for Juniors, #313)

24

Novtest Position 24



N vs. Bad B/Zugzwang

1...Nf4 is the best because it attacks two targets in a way which allows only one reply, paralyzing the White bishop.

1...Ng5 is not as good because it attacks only one target. After 2.Bf1 Black's best is still to aim the knight at f4, which he could have done on move one: 2...Ne6 (On 2...f6 White has 3.Bg2 Ne6 and now 4.g5! though complicated, gives White the best chance for counterplay by freeing a line for his bishop.)

3.g5 Once again trying to free a line for his bishop. 3...Nf4 and wins as in the main line. (Not 3...Nxf5 4.Bg2 f6 5.Bf1 Ne6 6.Be2 heading for the active g4 square.) If 1...f6 2.g5! fxf5 (2...Nxf5 3.Bg4) 3.Bg4 when Black may still be winning but it is much harder now. It is important to find the most accurate sequence.; if 1...Nd4 2.Bd1 f6 3.g5 fxf5 (3...f5? 4.g6) 4.Bg4

2.Bf1 f6 3.Kc2 Kd4 4.Kd2 c5 5.Kc2 Ke3 –+

(Source: Hal Terrie composition, 1995; revised 2009)

The Novice Openings Test

Instructions for taking this test

You are allowed two minutes for each of the positions in this test. In each position, select the one move you think is best. In some positions, more than one move will be accepted as correct. Your score will be based on the total number correct. A full discussion of the scoring is at the end of the test.

Answer Sheet for Novice Openings Test

Position Number	Best Move	Side to Move
1.		Black
2.		Black
3.		Black
4.		White
5.		White
6.		Black
7.		White
8.		Black
9.		White
10.		White
11.		White
12.		White
13.		White
14.		White
15.		Black
16.		Black
17.		White
18.		Black
19.		Black
20.		Black
21.		White
22.		White
23.		White
24.		Black
25.		Black

25



Novice Openings Position 1

Black to move

26



Novice Openings Position 2

Black to move

27



Novice Openings Position 3
Black to move

28



Novice Openings Position 4
White to move

29



Novice Openings Position 5
White to move

30



Novice Openings Position 6
Black to move

31



Novice Openings Position 7
White to move

32



Novice Openings Position 8
Black to move

33



Novice Openings Position 9
White to move

34



Novice Openings Position 10
White to move

35



Novice Openings Position 11
White to move

36



Novice Openings Position 12
White to move

37



Novice Openings Position 13
White to move

38



Novice Openings Position 14
White to move

39



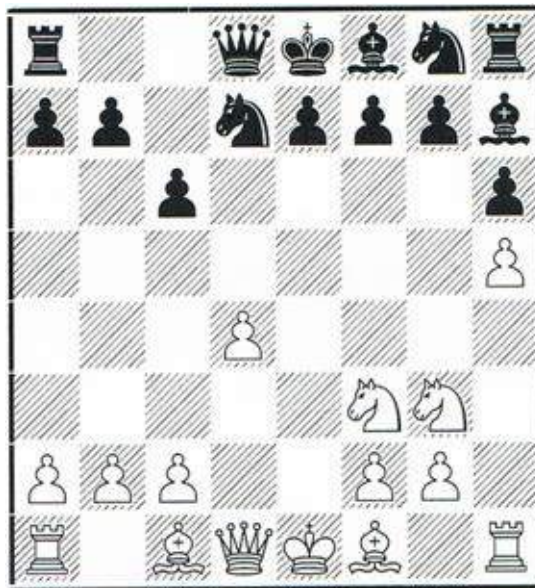
Novice Openings Position 15
Black to move

40



Novice Openings Position 16
Black to move

41



Novice Openings Position 17
White to move

42



Novice Openings Position 18
Black to move

43



Novice Openings Position 19
Black to move

44



Novice Openings Position 20
Black to move

45



Novice Openings Position 21
White to move

46



Novice Openings Position 22
White to move

47



Novice Openings Position 23
White to move

48



Novice Openings Position 24
Black to move

49



Novice Openings Position 25
Black to move

***Solution Key for
Novice Openings Test***

Position Number	Side to Move	Best Move(s)	Concept(s)	Key
1.	B	7...Bb4	D/P	
2.	B	4...d5	C/P	D = Development
3.	B	6...h6 or 6...Be6	P	S = Sacrifice
4.	W	6. d4	M	A = Attack
5.	W	3. Nf3	D/P	T = Tempo
6.	B	3...d6	D/M	C = Counterplay
7.	W	7. Qe2	M	DEF = Defense
8.	B	12...Nd4+; 13. Kd1 Ne6	DEF	P = Preventative
9.	W	6. Bd3	D	KIC = King in Center
10.	W	4. Bf4 or 4. Bh4	TH/P	TH = Theory
11.	W	6. Nxc6	P	AT = Attack/Tactics
12.	W	7. d4	M	TBP = Trade Best Piece
13.	W	8. Nxf7	S/AT	CR = Connect Rooks
14.	W	8. Bxc6	TBP/M	CP = Central Pressure
15.	B	7...a6 or 7...0-0	P/C	M = Material
16.	B	7...h6	P	L = Lever
17.	W	9. Bd3	D	O = Open Lines
18.	B	6...Bg4	AB	CLR = Clearance
19.	B	5...exd4	P	BC = Big Center
20.	B	6...Bb4+	D/T	AB = Active Bishops
21.	W	7. Bg5	AB	
22.	W	11. Nc6	M	
23.	W	7. Bd5 or 7. c3	A/P or S/D	
24.	B	6...Nd5	TH	
25.	B	8...c5	M	

Discussion: The Novice Openings Test

The main purpose of the Novice Openings Test is to reinforce the most fundamental principles of sound opening play: Development, Center Control, Material Balance and King Safety. Finer concepts such as space/mobility and maintenance of sound pawn structures are not tested here. Note that not all of the concepts given in the solution key are used in this test; they will appear in later tests.

This test also reinforces the importance of knowing some opening theory. Although you can use the main principles mentioned above as a guideline for sound play, you cannot always find the correct move in a position without knowing some theory. There are a number of examples of this covering diverse openings. Furthermore, in chess the best move(s) as defined by theory in many openings are not the ones that would be automatically defined by following principles. There are as many exceptions to “rules of thumb” as there are examples of their being followed.

For example, even in the most classic of chess openings, The Ruy Lopez, the best moves for White involve the King’s bishop moving three times just to stay on the board (i.e. 1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 and later when Black plays ...b5 the bishop retreats to b3 and later to c2 (after White plays c3). There are deep and complex explanations for why this piece needs to move 4 times to be saved that are beyond our discussion here.

The concepts presented in this test are very important for you to be able to enter the Middlegame without being at a great disadvantage. That is perhaps the most important aspect of the Opening in chess – when played correctly it enables either side to enter the Middlegame with even chances for future progress toward victory.

Complete Solutions to the Novice Openings Test

25



Novice Openings Position 1

Queen's Gambit Chigorin Defense (D07)

(1.d4 d5 2.c4 Nc6 3.Nf3 Bg4 4.cxd5 Bxf3 5.gxf3 Qxd5 6.e3 e5 7.Nc3)

Correct move is **7...Bb4** This is the only reasonable move. Any queen move would be strongly met by d5.

26



Novice Openings Position 2

Two Knights Defense (C57)

(1.e4 e5 2.Nf3 Nc6 3.Bc4 Nf6 4.Ng5)

Correct move is **4...d5** This move is the standard way for Black to deal with the threat on f7.

28

Novice Openings Position 3



Giucoco Piano (C50)

(1.e4 e5 2.Nf3 Nc6 3.Bc4 Bc5 4.d3 Nf6 5.Nc3 d6 6.Bg5)

Correct move is **6...h6** (or **6...Be6**) Black must deal with the threat of Nd5. Now the typical continuation is **7.Bxf6 Qxf6 8.Nd5 Qd8** when Black is fine.

28

Novice Openings Position 4



Petroff Defense (C42)

(1.e4 e5 2.Nf3 Nf6 3.Nxe5 Nxe4? 4.Qe2 Qe7 5.Qxe4 d6)

Correct move is **6.d4** Black remains at least a pawn down.

29

Novice Openings Position 5



King's Gambit (C30)

(1.e4 e5 2.f4 Bc5)

Correct move is **3.Nf3** This developing move is clearly best. (Not 3.fxe5?? Qh4+ wins for Black.; 3.Nc3?! allows ...Bxg1 followed by ...Qh4+ and allows Black more choices.)

30

Novice Openings Position 6



King's Gambit (C30)

(1.e4 e5 2.f4 Bc5 3.Nf3)

Correct move is **3...d6** The only way to play it. Black indirectly defends the e5 pawn with a ...Qh4+ tactic.

31

Novice Openings Position 7



Scotch Game (C45)

(1.e4 e5 2.Nf3 Nc6 3.d4 exd4 4.Nxd4 Nf6 5.Nxc6 bxc6 6.e5 Qe7)

Correct move is **7.Qe2** Anything else just loses a pawn. **7...Nd5 8.c4 Ba6 9.b3** when complicated play follows.



Novice Openings Position 8

Sicilian Nimzovich (B29)

For this one the student must give two consecutive Black moves for full credit.

(1.e4 c5 2.Nf3 Nf6 3.e5 Nd5 4.Nc3 e6 5.Nxd5 exd5 6.d4 Nc6 7.dxc5 Bxc5 8.Qxd5 Qb6 9.Bc4 Bxf2+ 10.Ke2 0–0 11.Rf1 Bc5 12.Ng5)

Black must play **12...Nd4+** **13.Kd1 Ne6** when White retains a strong initiative despite his uncastled king position.

Novice Openings Position 9



Colle System (D05)

(1.d4 d5 2.Nf3 Nf6 3.e3 e6 4.Nbd2 c5 5.c3 Nc6)

The correct move is **6.Bd3** The most logical developing move, which prepares a future pawn break with e4.

Novice Openings Position 10



Torre Attack (D03)

(1.d4 d5 2.Nf3 Nf6 3.Bg5 Ne4)

when White should keep his bishop with **4.Bf4** (Or 4.Bh4 although on the latter the bishop is deemed more out of play.)



Novice Openings Position 11

Scotch Four Knights (C47)

(1.e4 e5 2.Nf3 Nc6 3.Nc3 Nf6 4.d4 exd4 5.Nxd4 Bb4)

Correct move is **6.Nxc6** This is the best way to deal with the threat on the e4 pawn, planning to follow with Bd3. Instead 6.f3? could easily be met by 6...0-0 (or 6...d5).

36

Novice Openings Position 12



English - (A25) Pawn Fork

(1.c4 e5 2.Nc3 Nc6 3.g3 Nf6 4.Bg2 Bc5 5.e3 d6 6.Nge2 Be6??)

Now **7.d4** followed by d5 just wins a piece.

37

Novice Openings Position 13

Caro Kann (B17)

(1.e4 c6 2.d4 d5 3.Nc3 dxe4 4.Nxe4 Nd7 5.Bc4 Ngf6 6.Ng5 e6 7.Qe2 Be7?)

(Black should have played 7...Nb6.)

Now the correct move is **8.Nxf7** and wins. The point is **8...Kxf7 9.Qxe6+ Kg6** (or 9...Kf8 10.Qf7 mate) **10.Bd3+ Kh5 11.Qh3#**



38

Novice Openings Position 14



Ruy Lopez - (C87) Tactic wins pawn

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.O-O Be7 6.Re1 d6 7.d4

0-0?) Failing to deal with a direct threat. (See also the Novtest, #18.)

Playable moves included 7...b5; or 7...exd4; or 7...Bd7

Now the correct move is **8.Bxc6** which wins a pawn after **8...bxc6 9.dxe5 dxe5 10.Qxd8 Rxd8 11.Nxe5**

39

Novice Openings Position 15



French Defense (C14)

(1.e4 e6 2.d4 d5 3.Nc3 Nf6 4.Bg5 Be7 5.e5 Nfd7 6.Bxe7 Qxe7 7.f4)

The correct move is **7...a6** planning ...c5 on the next move. Or 7...0-0 would also be good; But not 7...c5? 8.Nb5

40

Novice Openings Position 16



Caro Kann (B18)

(1.e4 c6 2.d4 d5 3.Nc3 dxe4 4.Nxe4 Bf5 5.Ng3 Bg6 6.Nf3 Nd7 7.h4)

The correct move is **7...h6** which is the standard way to deal with the threat of h5.

41

Novice Openings Position 17



Caro Kann (B19)

(1.e4 c6 2.d4 d5 3.Nc3 dxe4 4.Nxe4 Bf5 5.Ng3 Bg6 6.Nf3 Nd7 7.h4 h6 8.h5 Bh7)

The correct move is **9.Bd3** The most logical follow up.

42



Novice Openings Position 18

Caro Kann (B13)

(1.e4 c6 2.d4 d5 3.exd5 cxd5 4.Nf3 Nf6 5.c3 Nc6 6.Bd3)

The correct move is **6...Bg4** Placing the bishop outside the pawn chain before playing ...e6.

43

Novice Openings Position 19



Giuoco Piano (C54)

(1.e4 e5 2.Nf3 Nc6 3.Bc4 Bc5 4.c3 Nf6 5.d4)

The correct move is **5...exd4** The only move. (Not 5...Bd6? 6.dxe5 Nxe5 7.Nxe5 Bxe5 8.f4 Bd6 9.e5 Qe7 10.Qe2)

44

Novice Openings Position 20



Giuoco Piano (C54)

(1.e4 e5 2.Nf3 Nc6 3.Bc4 Bc5 4.c3 Nf6 5.d4 exd4 6.cxd4)

The correct move is **6...Bb4+** If Black does not play this check, he is in danger of being overrun with d5 and e5.

45

Novice Openings Position 21



Queen's Gambit Exchange (D35)

(1.d4 d5 2.c4 e6 3.Nc3 Nf6 4.cxd5 exd5 5.Nf3 c6 6.Qc2 Bd6)

The correct move is **7.Bg5** Once again, placing the bishop outside the pawn chain before playing e3.

46

Novice Openings Position 22



Sicilian Najdorf (B85) w. bad ...b5

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Be3 e6 7.Be2 Be7 8.0-0 9.f4 Nbd7 10.Kh1 b5?)

After this bad move, the correct move is **11.Nc6** which gains the bishop pair.

47

Novice Openings Position 23



Ruy Lopez, Steinitz Deferred (C71)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 d6 5.d4 b5 6.Bb3 exd4)

The correct move is 7.Bd5 (Or the gambit idea 7.c3) But not 7.Nxd4? Nxd4 8.Qxd4 c5 wins a piece: 9.Qd5 Be6 10.Qc6+ Bd7 11.Qd5 c4

48

Novice Openings Position 24



Queen's Gambit Accepted (D24)

(1.d4 d5 2.Nf3 Nf6 3.c4 dxc4 4.Nc3 a6 5.e4 b5 6.e5)

The correct move is 6...Nd5 The only good square.

49

Novice Openings Position 25



Ruy Lopez, Steinitz Deferred (C71)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 d6

The most common moves of the main-line Ruy Lopez continue: 4...Nf6 5.0-0 (an indirect defense of the e4-pawn, based on Re1 ideas; or 5.d3 Be7 is also possible.) 5...Be7 6.Re1 b5 7.Bb3 d6

5.d4 b5 6.Bb3 Nxd4 7.Nxd4 exd4 8.Qxd4?)

allows the "Noah's Ark" trap winning a piece: 8...c5 followed by ...c4.

Chapter 2

The Intermediate Test

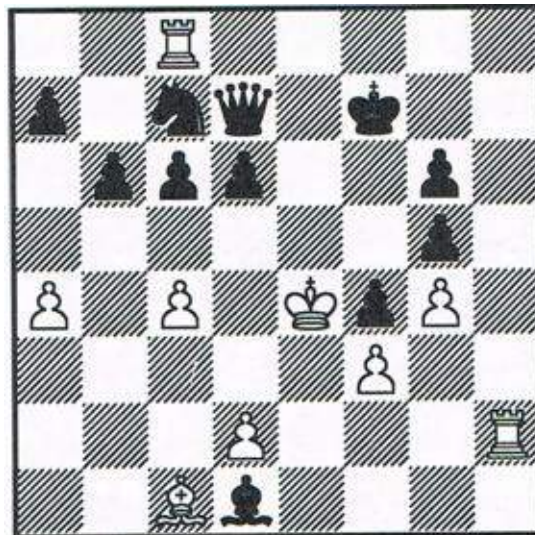
Instructions for taking this test

For each of the following positions, you are allowed a total of two minutes to select your preferred move(s) and to write down up to four choices in order of preference. Write your first choice in the column labeled “Preferred Move”. Write your secondary choices in the columns labeled “2nd Choice”, “3rd Choice”, “4th Choice”. You will receive partial credit for correct move(s) selections in any column. If your first choice is the correct move, you receive a full point credit, if your second choice is correct it gives 1/2 point credit, if your third choice is correct it gives 1/3 point credit, and a fourth choice correct gives 1/4 point credit.

Answer Sheet for Intermediate Test

Position Number	Preferred Choice	2nd Choice	3rd Choice	4th Choice	Side to Move
1.					White
2.					Black
3.					Black
4.					Black
5.					Black
6.					White
7.					White
8.					White
9.					Black
10.					Black
11.					White
12.					White
13.					Black
14.					White
15.					Black
16.					White
17.					Black
18.					White
19.					White
20.					Black
21.					Black
22.					White
23.					Black
24.					White

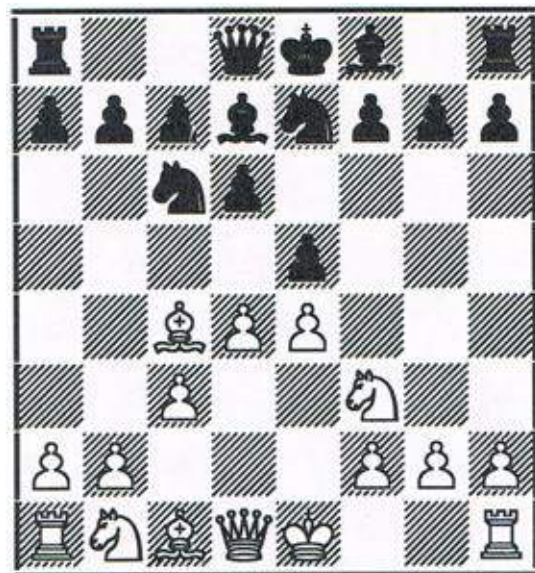
50



Intermediate Test Position 1

White to move

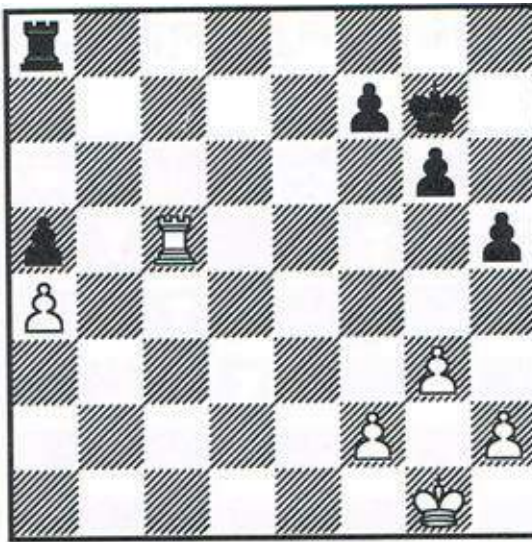
51



Intermediate Test Position 2

Black to move

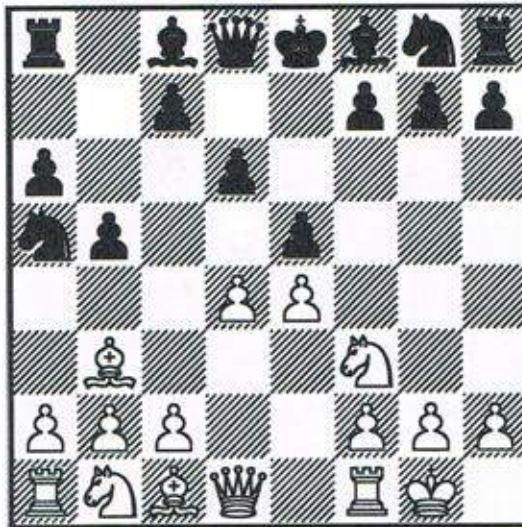
52



Intermediate Test Position 3

Black to move

53



Intermediate Test Position 4

Black to move

54



Intermediate Test Position 5

Black to move

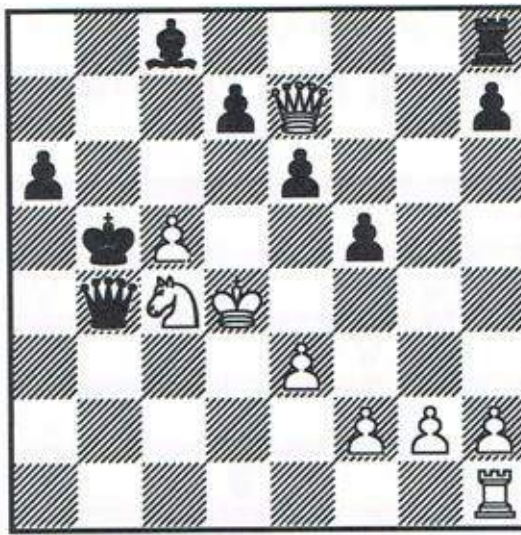
55



Intermediate Test Position 6

White to move

56



Intermediate Test Position 7

White to move

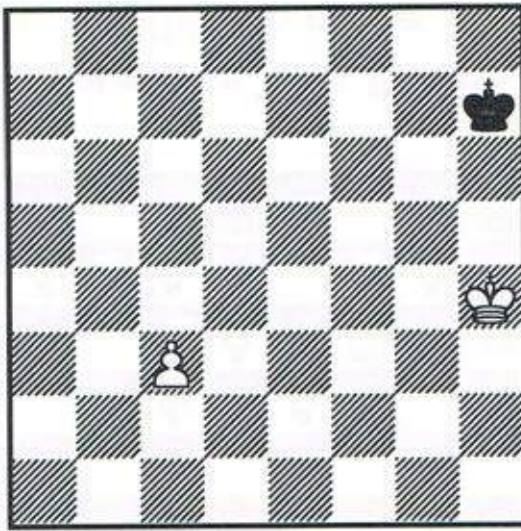
57



Intermediate Test Position 8

White to move

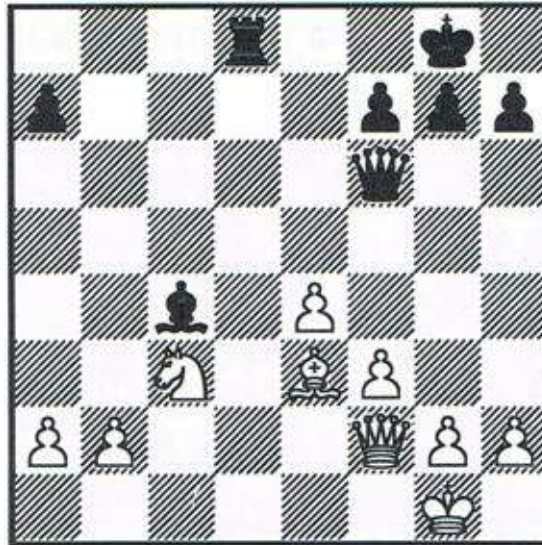
58



Intermediate Test Position 9

Black to move

59



Intermediate Test Position 10

Black to move

60



Intermediate Test Position 11

White to move

61



Intermediate Test Position 12

White to move

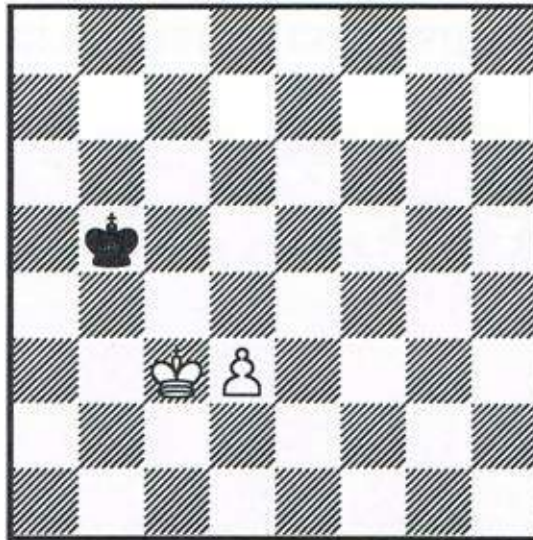
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Intermediate Test Position 13

Black to move

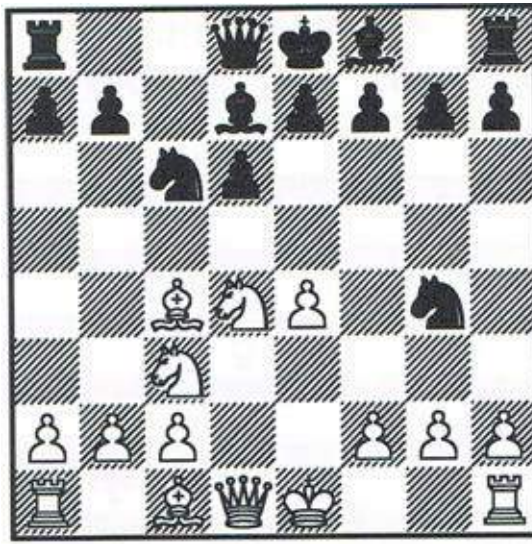
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Intermediate Test Position 14

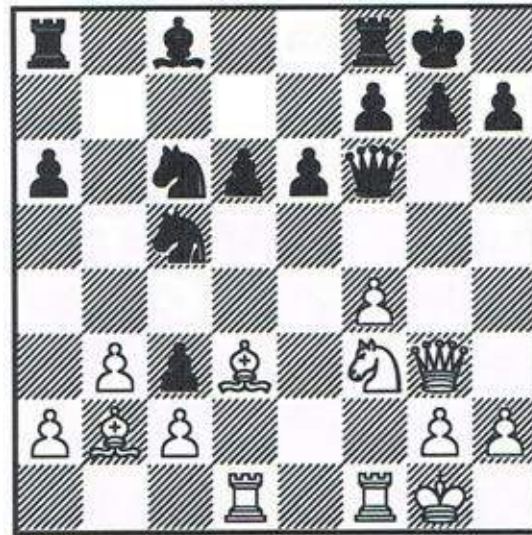
White to move

64



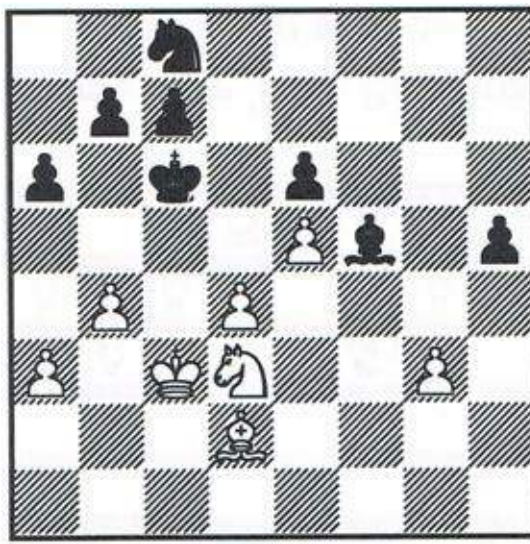
Intermediate Test Position 15
Black to move

65



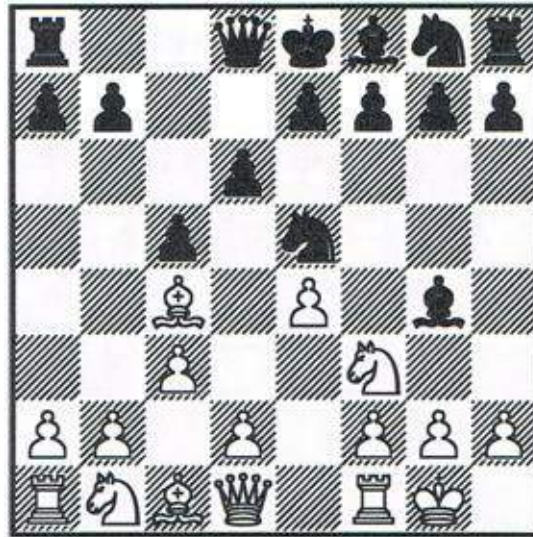
Intermediate Test Position 16
White to move

66



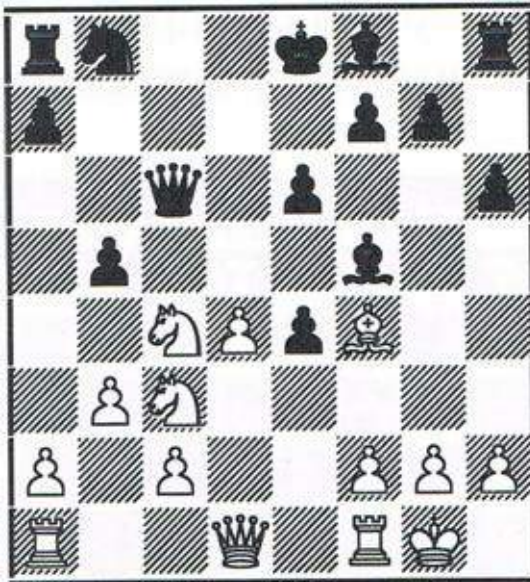
Intermediate Test Position 17
Black to move

67



Intermediate Test Position 18
White to move

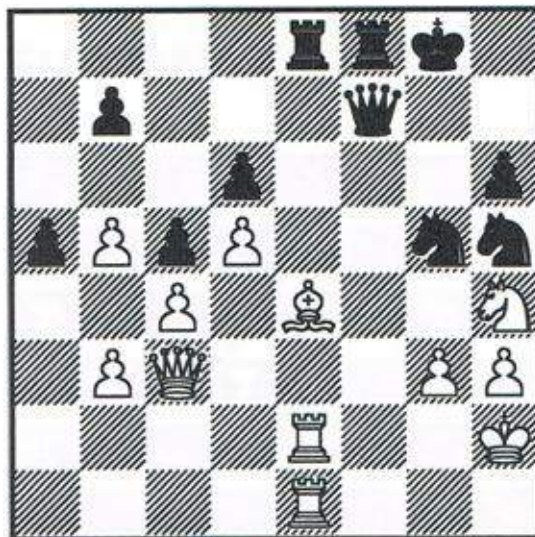
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Intermediate Test Position 19

White to move

69



Intermediate Test Position 20

Black to move

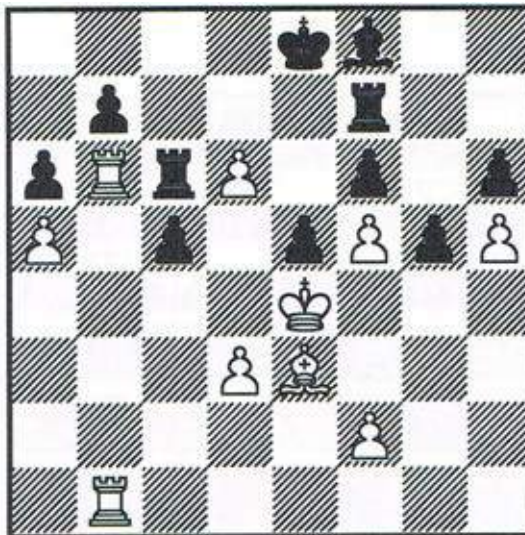
70



Intermediate Test Position 21

Black to move

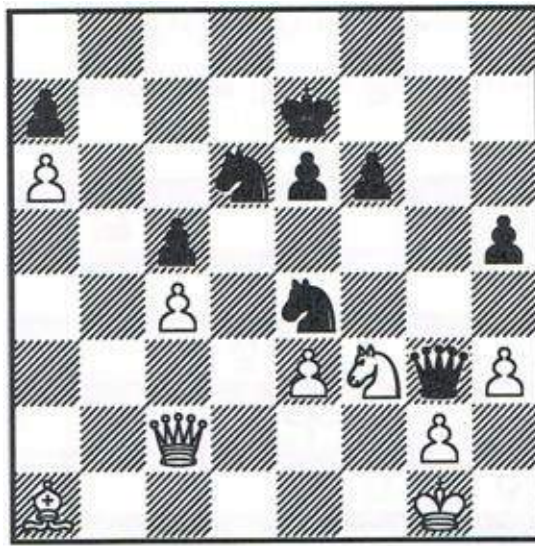
71



Intermediate Test Position 22

White to move

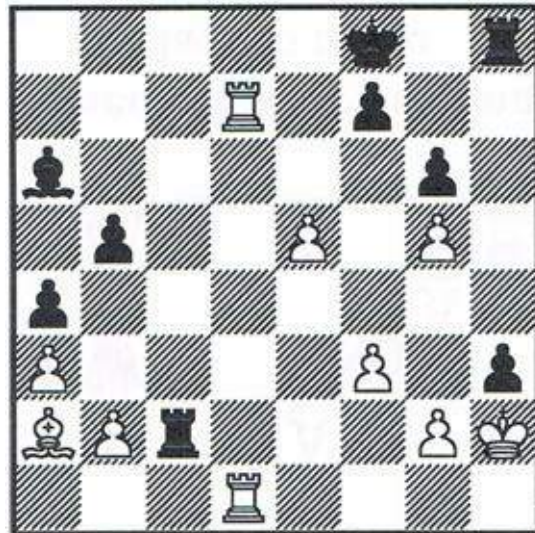
72



Intermediate Test Position 23

Black to move

73



Intermediate Test Position 24

White to move

Solution Key for Intermediate Test

Position Number	Side to Move	Phase of Game	Level of Difficulty	Solution(s)
1.	W	M	1	1. Rxc7
2.	B	O	2	6...exd4
3.	B	E	2	1...Rb8, 1...Rd8
4.	B	O	1	7...Nxb3
5.	B	M	1	1...Rxd2
6.	W	E	2	1. b5
7.	W	M	1	1. Rb1
8.	W	O	3	9. Nxf5
9.	B	E	2	1...Kh6
10.	B	M	2	1...Qxc3
11.	W	O	2	7. Bd5
12.	W	M	3	1. Rf8+
13.	B	O	3	8...Qb4
14.	W	E	1	1. Kd4
15.	B	O	1	8...Qb6
16.	W	M	3	1. Bxc3
17.	B	E	2	1...Bxd3
18.	W	O	2	6. Nxe5
19.	W	O	3	14. d5
20.	B	M	3	1...Rxe4
21.	B	O	2	7...Qd7
22.	W	E	3	1. Rxc6
23.	B	M	2	1...Ng5
24.	W	E	3	1. Rd8+

Discussion and Scoring: The Intermediate Test

After a few years of experience with the Novice Test, we decided that a new test was needed to evaluate those with playing strength between roughly 1500 and 1800. The Intermediate Test, designed in the year 2000, is the result. Early results with this test (in 2000 and 2001) suggest that it is more difficult than intended, with the upper limit being 1900 or more. A score/rating equivalence table is given below.

Score	Rating
19–24	Above 1800
13–18	1650–1800
7–12	1500–1650
under 7	1500 or below

You can evaluate your performance on the test not only from the total number correct but also based on phase of the game and difficulty of the positions. The distribution of positions between the opening, middlegame and endgame is roughly balanced. The positions are also assigned a level of difficulty, from one (easiest) to three (hardest). Thus, for instance, doing well on level three middlegames but poorly on level two and three endings would mean that tactics are good but you lack essential endgame knowledge; a reverse performance would mean tactics are weak and need study. And so on.

Intermediate Test Position 1



Deflection, Skewer

Best is **1.Rxc7** 1.Rh7+ is not as good: 1...Ke6 2.Rxd7 Kxd7 3.Rg8 when White has only an extra exchange and Black has serious counter-threats after 3...Ne6

1...Qxc7 2.Rh7+ Ke6 3.Rxc7 when White is ahead a full rook. (Danny Kopec composition, 2000.)

Intermediate Test Position 2



Recognizing Opening Threat (C60)

Probably best for Black is **6...exd4** 6...Na5 is another move which deals with the dual threats of Qb3 and Ng5. **7.cxd4**

(A) If 7.Ng5 Ne5 8.Qb3 Nxc4 9.Qxc4 d5 10.exd5 h6 11.Nf3 (*But not 11.Nxf7? Kxf7 12.d6+ Be6 when Black is better.*) 11...Bc8 The simplest. (*11...c6 is playable and leads to positions where Black has a pawn less but has great compensation due to his active pieces and threats to damage White's pawn structure.*) 12.0-0 (12.Qb5+ leads to nothing after 12...Qd7

13.Nxd4 Nxd5) 12...Nxd5 13.Qxd4 Be6 14.Re1 Nf6 after which Black completes his development with full equality. If now 15.Qa4+ Qd7 16.Qxd7+ Kxd7;

(B) If 7.Qb3 d5 8.Bxd5 (8.exd5? Na5 9.Qb4 c5 10.dxc6 Nexc6 11.Qa4 Qe7+ etc. with Black doing well.) 8...Nxd5 9.exd5 Qe7+ 10.Kf1 Na5 and Black is fine. These variations from the computer.

7...d5 8.exd5 Na5 This is an example of recognizing and dealing with threats. In order to progress in chess one must be able to do this.

Intermediate Test Position 3



Activate Rook

Black must sacrifice a pawn to activate his rook: **1...Rb8** (or ... Rd8). Not 1...Re8? 2.Kf1 This idea also occurs in CampTest position 22 - Black must activate his rook, even at the cost of a pawn. Here though, the pawn placement is very different (better for the defender). **2.Rxa5 Rb1+ 3.Kg2 Ra1** With the rook behind the passed pawn, Black can draw, though it is not as easy as had been thought, as has been demonstrated by recent practice (most notably in the game Leko - Anand, Linares 2003). This is an example

of the kind of specific endgame knowledge (R+3+a-pawn vs. R+3, rook behind a-pawn, with ...h5, draws) which strong players must have.

Intermediate Test Position 4



Ruy Lopez, Accurate Opening Play (C70)

This arises after the opening moves 1 e4 e5 2 Nf3 Nc6 3 Bb5 a6 4 Ba4 d6 5 0–0 b5 6 Bb3 Na5 7 d4.

Now 7...**Nxb3** is probably Black's best since 7...exd4 8.Nxd4 (Not 8.Qxd4? c5 9.Qd5 Be6 followed by ...c4. This is another version of the "Noah's Ark Trick" starting with ...c5. See positions 23 and 25 in the Novice Openings Test.) 8...c5 9.Bd5 gives White an edge.

Intermediate Test Position 5

Undermining Combination



1...Rxd2 2.Qxd2 Nxe4 and Black wins two pieces for a rook. This is an example of an undermining combination. It works because the White Queen is overloaded. (Danny Kopec composition, 2000.)

Intermediate Test Position 6



Line Opening Lever

1.b5! White opens a file to activate his rook and exploit the inability of Black's pieces to coordinate. This is an example of a "lever" to open lines.

1...cxb5 If 1...Nb8 2.bxc6 Nxc6 (2...bxc6 3.Rb1 Nd7 4.Rb7 Nf6 5.Rb8+ Kh7 6.a4) 3.Rb1 Nd8 4.Rb5 and again White wins easily. **2.Rc7 Nb6 3.Rxb7 Nc4 4.Kf2** More accurate than 4.Ke2 Na3 5.Rd7 Nb1 **4...Na3 5.Rd7 Bg6 6.Rxd5 Kf8** If 6...Bb1 7.Rd8+ Kh7 8.d5 should win easily enough for White. **7.Rd7 Ke8 8.Ra7 b4 9.e4** and again White should have every expectation to win. (Hal Terrie composition, 2000)

Intermediate Test Position 7



Decoy, Knight Fork

1.Rb1 Qxb1 2.Na3+ An example of a "decoy" sacrifice to create a fork.

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Intermediate Test Position 8



Sacrifice to Exploit Pin (C50)

This arises after the opening moves 1 e4 e5 2 Nf3 Nc6 3 Bc4 Nf6 4 d3 Bc5 5 Nc3 d6 6 h3 0-0 7 Bg5 h6 8 Bh4 g5.

The correct move is **9.Nxg5** As a rule of thumb, if Black is castled and his bishop has no easy access to e7, this sacrifice is considered very dangerous. As the variations below will demonstrate, White gets an enduring initiative and many threats but there is only one clear winning sequence. **9...hxg5 10.Bxg5 Bb4** We are giving this as the main line because it is an obvious try which a human might play, allowing us to demonstrate some typical

attacking ideas for White. However, it is not Black's best move.

The computer reveals that 10...Be6 is best, after which Black can survive White's attack with some precise moves which many humans would be unlikely to see: 11.Qf3 Kg7 12.Qg3 Rh8! Only this way!

Alternatives:

(a) Not 12...Nh5 13.Qh4 f6 14.Qxh5 wins.

(b) 12...Rg8 is not bad but after 13.0-0-0 White can continue to press an attack.;

(c) After 12...Bxc4 13.dxc4 Bb4 White can force a draw with 14.Bd2+ Kh8 15.Bg5 (threatening 16. Qh4+ Kg7 17. Qh6+) 15...Kg7 16.Bd2+ =

13.Bxe6 (13.Bh4+ Kf8) 13...fxe6 14.f4 The best try but now 14...Nh5 Note that the knight on h5 is defended - an important point. 15.Qg4 and now the cold-blooded 15...Qg8! 16.Rf1 Rh7! after which the king will hide on h8. Seeing all of this is probably beyond most humans. We don't believe that the existence of such a variation should discourage a human player from making the initial sacrifice. Besides, even here White can play on with 17. Ne2 or maybe 17. f5, in both cases with some ideas that could be dangerous if Black is not careful.



11.0-0 Also 11.Qf3 Kg7 12.Qg3 is interesting. **11...Bxc3 12.bxc3** The threat of f4 looks overwhelming. Black will have a very difficult time defending - both theoretically and practically. What follows is a good example of how human intuition must bow to the harsh reality of computer analysis.

12...Qe7 [SEE ANALYSIS DIGRAM]

Other tries are hopeless: 12...Na5 13.f4 Nxc4 14.fxe5! (*The routine 14.dxc4 also wins, though more slowly: 14...Qe7 15.fxe5 Qxe5 16.Bxf6 Qxe4 17.Rf3 Qg6 18.Qd4 Bf5 19.Qh4 Qh7 20.Qg5+ Bg6 21.Rf4*) 14...Nxe5 (14...Ne3 15.Qf3) 15.Bxf6 Qd7 16.Qh5 Ng6 17.Qh6

Now the objectively best way to play it is **13.Qf3** which leads to an immediate but rather prosaic win

as follows: **13...Kg7 14.Qg3 Nh5** There is really no choice about this, as in addition to **15 f4** White also threatens to regain the piece with **...Bh4+** and **...Qg5**. If **14...Be6? 15.Bxf6+ Kxf6 16.f4 +- 15.Bxe7+ Nxg3 16.Bxf8+ Kxf8 17.fxg3+-**



The major alternative at move 13 is **13.f4** This is a thematic move which is the most typical idea by which an attacker tries to maintain a long term initiative. **13...exf4 [SEE ANALYSIS DIAGRAM]**

14.d4 This quiet move threatens simply **Rxf4** and **Bxf6**. Black would have no choice but to return the piece but that will bring him only a brief reprieve.

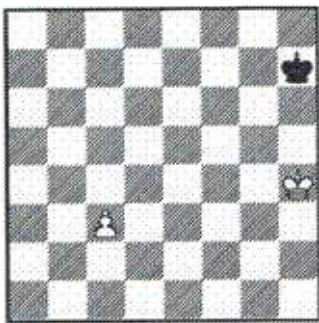
*On the plausible looking **14.Rxf4 Qe5** (defending by cleverly attacking both pieces), White can try the quiet **15.h4!** In fact, in the last edition of the book this was our main line. We spent several happy hours analyzing (without the computer) the line **15...Nh7? 16.Qh5?** (**16.Bh6** is better.)*

***16...Nxg5 17.hxg5 Qxf4 18.g6** which leads to many fascinating slow-motion attacking ideas for White. Unfortunately, subsequent computer analysis blew so many holes in it that we felt we had no choice but to remove all of it from this edition. Nevertheless, between two human opponents such inaccurate sequences can really occur and the student can have a lot of fun analyzing from this position.*

Now after **14.d4 Qxe4 15.Bxf6 Qf5** White must play **16.Bh4** when material equality has been reestablished and White has a huge attack. **16...Kg7** The computer considers it essential to unpin the f-pawn. **17.Qd2** Quietly building up. Black's queenside pieces will be mere spectators to what follows. **17...Qh5 18.Qxf4 f5 19.Rf3 Bd7 20.Rg3+ Kh8 21.Re1 Rae8 22.Rxe8 Bxe8 (22...Rxe8 23.Bf6+ Kh7 24.Rg7+ Kh8 25.Rxd7#) 23.Be2! Qh7 24.Qg5** when Black must give a piece just to avoid immediate mate.

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Intermediate Test Position 9



Opposition

1...Kh6 is the only move to draw. Black must take the opposition and yet stay within the square of the pawn. **1...Kg6? 2.Kg4 Kf6 3.Kf4 Ke6 4.Ke4 Kd6 5.Kd4 Kc6 6.Kc4 Kb6 7.Kd5 +-; 1...Kg7? 2.Kg5** also wins for White.

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Intermediate Test Position 10



Back Rank Vulnerability

White has two pawns for the exchange so Black must find this tactical opportunity to win. **20...Qxc3! 21.bxc3 Rd1+ 22.Qe1 or 22.Qf1 Rxf1# 22...Rxe1+ 23.Kf2 Re2+** and Black wins.

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Intermediate Test Position 11



Ruy Lopez, (C71) Noah's Ark Trap

This arises after the opening moves 1 e4 e5 2 Nf3 Nc6 3 Bb5 a6 4 Ba4 d6 5 d4 b5 6 Bb3 exd4.

7.Bd5 Not 7.Nxd4? Nxd4 8.Qxd4 c5 9.Qd5 Be6 10.Qc6+ Bd7 11.Qd5 c4 is the Noah's Ark trap again. White could also play in gambit style, with 7.c3 dxc3 8.Nxc3 (8.Qd5 Qd7 is not convincing.)

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Intermediate Test Position 12



Deflection Sacrifice

1.Rf8+! 1.Qg8+ is also good but not as quick: 1...Kf6 2.Rxc7 Rxc7 3.Qd8+ **1...Kxf8 2.Qxg6** This was the conclusion of Kopec - A. Ivanov, Eastern Class Championships, Woburn, MA, 1994.

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Intermediate Test Position 13



Accelerated Sicilian, (B35) Book Trap

This arises after the opening moves 1 e4 c5 2 Nf3 Nc6 3 d4 cxd4 4 Nxd4 g6 5 Nc3 Bg7 6 Be3 Nf6 7 Bc4 Qa5 8 f3.

8...Qb4 9.Bb3 Nxe4 wins a pawn. This is a book trap from the Accelerated Fianchetto Variation of the Sicilian Defense.

Intermediate Test Position 14



King Ahead of Pawn

1.Kd4 is the only move to win. To win the ending K + P vs. K you must have the opposition ahead of the pawn. Here White ensures his King will get 2 ranks ahead of the pawn (which always wins with a non-rook pawn) and is well on the way to "building a bridge" for the pawn to "walk through."

Intermediate Test Position 15



Sicilian Defense, (B57) Opening Trap

This arises after the opening moves 1 e4 c5 2 Nf3 d6 3 d4 cxd4 4 Nxd4 Nf6 5 Nc3 Nc6 6 Bc4 Bd7 7 Be3? Ng4 8 Bc1?.

8...Qb6 This is a trap which I (DK) have employed a number of times for Black. **9.Be3** 9.Nd5 Qxd4 10.Qxd4 Nxd4 **9...Nxe3** **10.fxe3** **Ne5** **11.Nd5** **Qd8** (Nadeau - Kopec, Canadian Open, Toronto 1976).

Intermediate Test Position 16



Decoy, Classic Bishop Sacrifice

1.Bxc3! Successful chess play is largely based on being to recognize and exploit well known patterns. Here White has recognized an opportunity to employ the Classic Bishop Sacrifice in an original way **1...Qxc3** **2.Bxh7+** **Kxh7** (In the game, play continued 2...Kh8 3.Qh3 etc. when White had a continuing and vicious attack which chased the Black King all over the board. This occurred in Kopec - Fedorowicz, Phillips and Drew Knights, London, 1982.) **3.Ng5+**

Intermediate Test Position 17



Knight vs. Bad Bishop

1...Bxd3 2.Kxd3 Kd5 This is the cleanest way, seizing the central square for the king. 2...Ne7 3.Ke4 b5 4.Kf4 allows White too much play. **3.Bg5** Preventing the immediate Ne7–f5.

If instead 3.Ke3 Ne7 4.Kf4 Nf5 and now:

(A) 5.Bc3 Kc4 6.Ba1 is a tricky try. (6.Bd2 Nxd4 also wins for Black, though with some complications.) but after 6...c6 (White was hoping for 6...Kb3?? 7.d5) 7.g4 hxg4 8.Kxg4 Nxd4 Black wins.

(B) 5.Be1 Nxd4 (5...Kxd4 is not as good: 6.Kg5 Ke3 7.Kxh5 Ke2 8.g4) 6.Bf2 (6.Kg5?? Nf3+) and now 6...Nc6! is simplest (Not 6...Nc2?! 7.Kg5 Kxe5 8.Kxh5 Nxa3 9.g4 Nc2 10.Bc5 is not so clear - or 10.g5 when Black has to see Nxb4 11.g6 Kf6 12.Bd4+ [12.Kh6 Nd5 13.g7 Kf7] 12...e5 and now 13.Bxe5+ fails to 13...Kxe5 14.g7 Nd5 the point being 15.g8Q Nf6+) 7.Kg5 Nxe5 8.Kxh5 Ke4 9.Bc5 (9.g4 Kf3) 9...Kf3! Blockading the g-pawn. 10.Kg5 (If 10.a4, for example, 10...b5 [10...b6 looks good at first but after 11.Bd4 Ng4 12.b5 axb5 13.axb5 e5 14.Bc3 e4 15.Kg5 e3 16.Kf5 White's king heads to d7.] 11.axb5 axb5 12.Bd4 Ng4 13.Kh4 e5 14.Bc3 e4 wins easily.) 10...Ng4 and the e-pawn once again advances.

3...Na7! The most methodical, threatening both ...Nc6 and ...Nb5, while preserving all of Black's pawn tempi. 3...b5 would be a mistake, as Black wants to save this pawn tempo for later.; or 3...Nb6?! 4.Bd8 (4.Bc1 Nc4 5.a4 b5 6.axb5 axb5 7.Bg5) 4...Nc4 5.Bxc7 Nxa3 when Black still has work to do. **4.Bc1** Preparing to meet ...Nb5 with Bb2 but now (If 4.a4 Nc6 just loses a pawn immediately, while if 4.Be3 Nb5 5.a4 Na7 6.Bf2 b5 7.axb5 axb5 8.Be1 Nc6 9.Bc3 Ne7 10.Be1 Nf5 11.Bf2 c6 12.Kc3 Ke4 and Black soon wins.) **4...Nc6 5.Be3 Ne7 6.Bf2** If 6.a4 Nf5 (Black can also play 6...Nc6 7.b5 axb5 8.axb5 Na7 wins a pawn.) 7.Bf2 b5 8.a5 c6 transposes to the main line.; If 6.Bg1 Nf5 7.Bf2 b5 8.Kc3 Ke4 is similar to the main line. **6...Nf5 7.a4 b5** Now that the bishop is paralyzed, Black uses his pawn moves at last, to create zugzwang. **8.a5 c6 9.Kc3 Ke4** and wins. (Hal Terrie composition, 2000; revised 2005)

Intermediate Test Position 18



Discovery, Double Attack (B50)

This arises after the opening moves 1 e4 c5 2 Nf3 d6 3 Bc4 Nc6 4 0–0 Bg4 5 c3 Ne5

6.Nxe5! Black has just played ...Ne5 trying to exploit the pin on f3. However Black has neglected development and the safety of his king. **6...Bxd1** or 6...dxe5 7.Qxg4 with an extra piece. **7.Bxf7#**

Intermediate Test Position 19



Exploit Development Advantage (D00)

1.d4 d5 2.Nf3 c6 3.Bg5 Qb6 4.b3 h6 5.Bf4 Bf5 6.e3 Nf6 7.Bd3 Ne4 8.Nfd2 e6 9.Bxe4 dxe4 10.0-0 c5 11.Nc3 cxd4 12.exd4 Qc6 13.Nc4 b5 and now:

14.d5 The point of this move 14.d5! is that Black's lackadaisical opening play must be dealt with energetically. White's knights are put into immediate action. The game continuation was 14...exd5 15.Ne5 (Also possible was 15.Nxd5 bxc4 16.Nc7+ Ke7 17.Nxa8 Qxa8 18.Qd6+ Ke8

19.Qxb8+ and wins.) 15...Qxc3 16.Qxd5 Be6 17.Qxa8 Bd6 18.Qxe4 0-0 19.Ng6 Rd8 20.Rad1 Qc7 21.Bxd6 Rxd6 22.Qe5 1-0. (Kopec - Swaminithan, Queens CC Ch. 2010)

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Intermediate Test Position 20



Decoy Sacrifice

1...Rxe4! Black's decoy sacrifice forces the exposure of the White King. If 1...Nxe4 2.Rxe4 Qf2+ 3.Ng2 when there is no obvious follow-up. **2.Rxe4 Qf2+ 3.Ng2 Nf3+ 4.Kh1 Nxe3#** (This combination was played in Livshits - Kopec, Toronto, 1993.)

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Intermediate Test Position 21



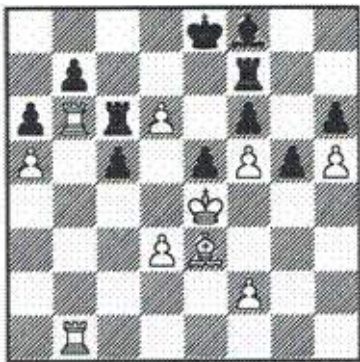
Evans Gambit, (C52) Book Trap

This arises after the opening moves 1 e4 e5 2 Nf3 Nc6 3 Bc4 Bc5 4 b4 Bxb4 5 c3 Ba5 6 d4 d6 7 Qb3.

7...Qd7 is the only move which defends against the threat of winning a piece with d5. This is a book position from the Evans Gambit. Not 7...Qe7? 8.d5 Nb8 9.Qa4+ or 7...Qf6? 8.d5 Nb8 9.Qa4+ This position again demonstrates that sometimes you must have specific opening knowledge. Sometimes due to hidden tactical possibilities this cannot be avoided.

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Intermediate Test Position 22



Accurate Simplification

1.Rxc6 is the most precise, simplifying to an immediate win. After 1.Rxb7 Rxb7 (1...Bxd6? 2.Rxf7 Kxf7 3.Kd5; 1...Rxd6 holds on.) 2.Rxb7 Bxd6 3.Kd5 Rc7 4.Rb6 Be7 White is winning but Black can still make some moves. In other words, White should win, but he may have to play for a number of more moves and hours. **1...bxc6 2.Rb8+ Kd7 3.Rb7+ Ke8 4.Rxf7 Kxf7 5.Bxc5** with the devastating threat of d7. The endgame usually occurs after a number of hours of play. Hence, when a

simplifying combination is available whereby you can convert to an

"easier" endgame, it is important to find it. (This was the conclusion of Kopec - Bellin, 2nd Edinburgh Congress, 1981.)

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Intermediate Test Position 23



Knight Decoy with Intermezzo

1...Ng5! A surprising and effective tactical blow. Retreating N moves or retreating moves on a long diagonal are often overlooked. This was played in Rajna - Kopec, World Chess Festival, St. John, New Brunswick, 1988. **2.Nxg5**

If 2.Qe2 Nxf3+ 3.Qxf3 Qe1+ 4.Qf1 Qxe3+ **2...Qxe3+ 3.Kh1 Qxg5**

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Intermediate Test Position 24



Prevent Counterplay

1.Rd8+ Prevent counterplay! After 1.Rxf7+? Ke8 Black has dangerous threats. For example 2.Ra7 hxc2+ 3.Kg3 g1Q+! 4.Rxg1 Bc8 **1...Kg7 2.Rxh8 Kxh8 3.Bxf7** The most precise, immediately creating a passed pawn. **3...hxc2 4.Bxc6 Re2** If 4...Rf2 5.Be4 b4 6.axb4 Rxb2 7.e6 Bb5 8.Rd5 Rxb4 9.e7. **5.Be4** Again, the lesson is that in chess, particularly in the ending, it is important to find variations which can translate a good or won position into one where your opponent actually resigns. (From a correspondence training game Kopec - Gerzadowicz, 1991.)

The Intermediate Openings Test

Instructions for taking this test

You are allowed two minutes for each of the positions in this test. In each position, select the one move you think is best. In some positions, more than one move will be accepted as correct. Your score will be based on the total number correct. A full discussion of the scoring is at the end of the test.

***Answer Sheet for Intermediate
Openings Test***

Position Number	Best Move	Side to Move
1.		Black
2.		Black
3.		White
4.		White
5.		Black
6.		Black
7.		Black
8.		White
9.		Black
10.		Black
11.		Black
12.		Black
13.		Black
14.		Black
15.		White
16.		White
17.		Black
18.		White
19.		White
20.		White
21.		White
22.		Black
23.		Black
24.		Black
25.		Black
26.		Black

74



Intermediate Openings Position 1
Black to move

75



Intermediate Openings Position 2
Black to move

76



Intermediate Openings Position 3
White to move

77



Intermediate Openings Position 4
White to move

78



Intermediate Openings Position 5
Black to move

79



Intermediate Openings Position 6
Black to move

80



Intermediate Openings Position 7
Black to move

81



Intermediate Openings Position 8
White to move

82



Intermediate Openings Position 11
Black to move

85



Intermediate Openings Position 12
Black to move

86



Intermediate Openings Position 13
Black to move

87



Intermediate Openings Position 14
Black to move

88



Intermediate Openings Position 15
White to move

89



Intermediate Openings Position 16
White to move

90



Intermediate Openings Position 17
Black to move

91



Intermediate Openings Position 18
White to move

92



Intermediate Openings Position 19
White to move

93



Intermediate Openings Position 20
White to move

94



Intermediate Openings Position 21
White to move

95



Intermediate Openings Position 22
Black to move

96



Intermediate Openings Position 23
Black to move

97



Intermediate Openings Position 24
Black to move

98

Solution Key for Intermediate Openings Test

Position Number	Side to Move	Best Move(s)	Concept(s)	Key
1.	B	6...e5	C/L	
2.	B	10...Rf8	TH/P	D = Development
3.	W	7. Qd5	TH/M	S = Sacrifice
4.	W	7. d4	CP/D/O	A = Attack
5.	B	5...Bxf2+	S/AT/TH	T = Tempo
6.	B	10...c5	C/L	C = Counterplay
7.	B	8...h5 or 8...d5	DEF/L	DEF = Defense
8.	W	9. Bc4	D/A	P = Preventative
9.	B	10...e4	C/L	KIC = King in Center
10.	B	14...Rxc3	S/C/TH	TH = Theory
11.	B	7...d5	C/L	AT = Attack/Tactics
12.	B	12...e5	C/L	TBP = Trade Best Piece
13.	B	11...Nd7	P	CR = Connect Rooks
14.	B	9...Bg4	CP/TH	CP = Central Pressure
15.	W	7. Nxe5	CLR/AT/M	M = Material
16.	W	7. Qc2 or 7.e3	BC	L = Lever
17.	B	5...d5	C/D	O = Open Lines
18.	W	4. e4	O/S/AT	CLR = Clearance
19.	W	6. Bb5+	T/D/AT	BC = Big Center
20.	W	9. f4 or 9. f3	A/TH	AB = Active Bishops
21.	W	9. Bxe6	S/AT	
22.	B	8...d5	C/L	
23.	B	10...Nd7	D	
24.	B	6...e6	D/P	
25.	B	12...e5	C/L	
26.	B	7...Qf6	A/TH	

Discussion: The Intermediate Openings Test

The Intermediate Openings Test poses challenges at a significantly higher level than the Novice Openings Test. Here we test various known theoretical opening positions as well as knowledge of the basic principles and the ability to calculate more deeply.

The test surveys subjects' knowledge of important theoretical variations where sometimes a somewhat awkward-looking move must be played in order to preserve an advantage or even to just survive. Examples include the Nimzowitsch Variation of the Sicilian Defense, The Budapest Gambit, The Ruy Lopez Open Variation, among many others. The positions in this test also look for knowledge of the pawn play in different openings necessary in order to achieve a balanced middlegame. This is illustrated in many openings and is an important bridge to Expert level play.

*Complete Solutions to
The Intermediate Openings Test*

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Intermediate Openings Position 1



Chigorin (D07)

(1.d4 d5 2.c4 Nc6 3.Nf3 Bg4 4.cxd5 Bxf3 5.gxf3 Qxd5 6.e3)

The correct move is **6...e5** Otherwise Nc3 will be a serious problem.

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Intermediate Openings Position 2



King's Indian Exchange (E92)

(1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.Nf3 0-0 6.Be2 e5 7.dxe5 dxe5 8.Qxd8 Rxd8 9.Bg5 Nbd7 10.0-0-0) White threatens both Nxe5 and Nd5.

The correct move is **10...Rf8** The only move which handles both threats. Black cannot defend with 10...Re8 because of 11.Nb5

76

Intermediate Openings Position 3



Budapest Defense (A52)

(1.d4 Nf6 2.c4 e5 3.dxe5 Ng4 4.Nf3 Nc6 5.Bf4 Bb4+ 6.Nc3 Qe7)

Correct is **7.Qd5** The most challenging move

77

Intermediate Openings Position 4



Ruy Lopez Open (C80)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.O–O b5 6.Bb3 Nxe4)

The correct move is 7.d4 This is the main theoretical move. (It is noteworthy that neither 7.Re1? d5 8.d3 Nf6 9.Nxe5 Nxe5 10.Rxe5+ Be6; nor 7.Qe2? d5 8.d3 Nf6 9.Nxe5 Nxe5 10.Qxe5+ Be6 give White any advantage.) Now 7...d5 is compulsory. If instead 7...exd4? 8.Re1 d5 9.Nc3! presents a serious challenge for Black.

78

Intermediate Openings Position 5



Wilkes Barre (C57)

(1.e4 e5 2.Nf3 Nc6 3.Bc4 Nf6 4.Ng5 Bc5 5.Nxf7) The correct move is 5...Bxf2+ A move you have to know. Now after 6.Kxf2 Nxe4+ Black gets a very strong counterattack.

79

Intermediate Openings Position 6



French MacCutcheon (C12)

(1.e4 e6 2.d4 d5 3.Nc3 Nf6 4.Bg5 Bb4 5.e5 h6 6.Bd2 Bxc3 7.bxc3 Ne4 8.Qg4 g6 9.Bd3 Nxd2 10.Kxd2)

The correct move is 10...c5 A standard French Defense pawn break.

80

Intermediate Openings Position 7



Sicilian Keres Attack (B81)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 e6 6.g4 h6 7.h4 Nc6 8.Rg1)

The correct move is **8...h5** Also 8...d5

81

Intermediate Openings Position 8



Sicilian Nimzovich (B29)

(1.e4 c5 2.Nf3 Nf6 3.e5 Nd5 4.Nc3 e6 5.Nxd5 exd5 6.d4 Nc6 7.dxc5 Bxc5 8.Qxd5 Qb6)

The correct move is **9.Bc4** White is committed and has to play this.

82

Intermediate Openings Position 9



Nimzo Indian (E31)

(1.d4 Nf6 2.c4 e6 3.Nc3 Bb4 4.Bg5 c5 5.d5 d6 6.e3 h6 7.Bh4 Bxc3+ 8.bxc3 e5 9.f3 g5 10.Bf2)

10...e4 The idea behind this move is to somewhat disrupt White's pawn structure by preventing the chain formed by e4 and vacating the e5 square for Black pieces. (From a game Yermolinsky - Kopec, Eastern Class Championships 1994.)

83

Intermediate Openings Position 10



Sicilian Dragon (B78)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 g6 6.Be3 Bg7 7.f3 Nc6 8.Qd2 0-0 9.Bc4 Bd7 10.h4 h5 11.0-0-0 Rc8 12.Bb3 Ne5 13.Bh6 Bxh6 14.Qxh6)

The correct move is **14...Rxc3** This is a standard (and necessary) sacrifice in such Sicilian Dragon positions where each side attacks furiously on the opposite wing. Black gets considerable counterplay thanks to the weakening

of the pawn structure protecting the White king.

84

Intermediate Openings Position 11



Nimzo Indian (E45)

(1.d4 Nf6 2.c4 e6 3.Nc3 Bb4 4.e3 b6 5.Nge2 Ba6 6.a3 Bxc3+ 7.Nxc3)

The correct move is **7...d5** The only consistent move. This puts immediate pressure on White.

85

Intermediate Openings Position 12



Sicilian Scheveningen (B82)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 e6 6.Be2 Nc6 7.0-0 Be7 8.Be3 0-0 9.f4 a6 10.a4 Qc7 11.Qe1 Nxd4 12.Bxd4)

The correct move is **12...e5** This is a standard counter for Black.

86

Intermediate Openings Position 13



Benko Gambit (A58)

(1.d4 Nf6 2.c4 c5 3.d5 b5 4.cxb5 a6 5.bxa6 Bxa6 6.Nc3 d6 7.Nf3 g6 8.Nd2 Bg7 9.e4 0-0 10.Bxa6 Nxa6 11.0-0)

The correct move is **11...Nd7** This is an important move for Black's planned deployment of his forces in the middlegame. He prevents White's e5 for a long time, he prepares to challenge a White knight that might attempt to secure itself on c4; Black is already developing middlegame themes while White must still complete the opening.

87

Intermediate Openings Position 14



Ruy Lopez Closed (C91) d4 without h3

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0-0 Be7 6.Re1 b5 7.Bb3 d6 8.c3 0-0 9.d4)

The correct move is **9...Bg4** One of the major Ruy Lopez variations, where this is the usual move if White does not prevent it with h3.

88

Intermediate Openings Position 15



English - (A34) Tactic wins pawn

(1.Nf3 Nf6 2.g3 c5 3.c4 d5 4.cxd5 Nxd5 5.Nc3 Nc6 6.Bg2 e5?)

Now 7.Nxe5 wins a pawn: 7...Nxc3 8.Bxc6+ (8.Nxc6 Nxd1 9.Nxd8 also looks winning for White.) 8...bxc6 9.dxc3

89

Intermediate Openings Position 16



Queen's Indian (E12)(1.d4 Nf6 2.c4 e6 3.Nf3 b6 4.a3 Bb7 5.Nc3 d5 6.cxd5 Nxd5)

Either 7.Qc2 (to prepare e4) or 7.e3 is another valid way to play the position.

90

Intermediate Openings Position 17



Two Knights Defense (C56)

(1.e4 e5 2.Nf3 Nc6 3.Bc4 Nf6 4.d4 exd4 5.e5)

Correct is 5...d5 In many double king pawn openings it is important for Black to react to White's attempts to be pushy via the pawn advance e5 with ...d5. Now transposition to the normal Two Knights Defense follows with (5...d5) 6.Bb5 Ne4 7.Nxd4 etc. Less secure is 5...Ne4 which White may answer with Bd5 or 0-0. Also playable but less common than ...d5 (and not accepted as a right answer for this test) is 5...Ng4 6.Qe2 Qe7 7.Bf4

f6!

91

Intermediate Openings Position 18



Dutch Defense (A80)

(1.d4 f5 2.Bg5 h6 3.Bh4 d6)

Correct is 4.e4 White immediately exploits the white-squared holes surrounding the Black king. If now 4...g5 5.Qh5+ Kd7 6.Bxg5 etc. with White better.

92

Intermediate Openings Position 19



Sicilian (B56) w. bad ...e5

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 e5?)

Correct is **6.Bb5+** White must punish Black's last move with this intermezzo check. The idea is that after a trade of the light-squared bishops, Black will have holes on d5 and f5.

93

Intermediate Openings Position 20



Sicilian Richter Rauzer (B63)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 Nc6 6.Bg5 e6 7.Qd2 Be7 8.0-0-0 a6)

Correct is **9.f4** (the most common move.) However **9.f3** is also a reasonable way to play it.

94

Intermediate Openings Position 21



Sicilian Najdorf (B86) w. bad ...Nbd7

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Bc4 e6 7.Bb3 Be7 8.Be3 Nbd7?)

Correct is **9.Bxe6** A stock Sicilian Defense sacrifice of a piece for three pawns which is important to know and play for White when available - but to avoid as Black.

95

Intermediate Openings Position 22



Sicilian Defense Taimanov (B45)

(1.e4 c5 2.Nf3 e6 3.d4 cxd4 4.Nxd4 Nc6 5.Nb5 Nf6 6.N1c3 Bb4 7.a3 Bxc3+ 8.Nxc3)

Correct is **8...d5** Black must play this move. If not d5 he will get into some trouble on d6 etc.

96

Intermediate Openings Position 23



Kopec - Swaminathan, Queens CC Ch (1), 2010 (D00)

(1.d4 d5 2.Nf3 c6 3.Bg5 Qb6 4.b3 h6 5.Bf4 Bf5 6.e3 Nf6 7.Bd3 Ne4 8.Nfd2 e6? 9.Bxe4 dxe4 10.0-0)

Now Black should play **10...Nd7** This developing move is best, though White is already better.

97

Intermediate Openings Position 24



Caro Kann Ng5 (B17)

(1.e4 c6 2.d4 d5 3.Nc3 dxe4 4.Nxe4 Nd7 5.Ng5 Ngf6 6.Bd3)

The correct move is **6...e6** Black should play this as other moves are inferior. The idea is to enable ...h6 without losing to Nxe6. For example 6...h6?? 7.Ne6 or 6...e5? 7.Bc4 Nd5 8.N1f3

98

Intermediate Openings Position 25



Queen's Gambit Declined (D68)

(1.d4 d5 2.c4 e6 3.Nc3 Nf6 4.Bg5 Be7 5.e3 0-0 6.Nf3 Nbd7 7.Rc1 c6 8.Bd3 dxc4 9.Bxc4 Nd5 10.Bxe7 Qxe7 11.0-0 Nxc3 12.Rxc3)

Correct is **12...e5** A typical Queen's Gambit pawn break to free the c8-bishop.

99

Intermediate Openings Position 26



Ruy Lopez Exchange (C68)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Bxc6 dxc6 5.0-0 Bg4 6.h3 h5 7.d3)

Correct is **7...Qf6** This is the book move. If you're going to play a move like 6...h5, you need to know a few more moves.

Chapter 3

The Bratko-Kopec Test

Instructions for taking this test

For each of the following positions, you are allowed a total of two minutes to select your preferred move(s) and to write down up to four choices in order of preference. Write your first choice in the column labeled "Preferred Move". Write your secondary choices in the columns labeled "2nd Choice", "3rd Choice", "4th Choice". You will receive partial credit for correct move(s) selections in any column. If your first choice is the correct move, you receive a full point credit, if your second choice is correct it gives $1/2$ point credit, if your third choice is correct it gives $1/3$ point credit, and a fourth choice correct gives $1/4$ point credit.

Answer Sheet for Bratko–Kopec Test

Position Number	Preferred Choice	2nd Choice	3rd Choice	4th Choice	Side to Move
1.					Black
2.					Black
3.					White
4.					White
5.					White
6.					White
7.					White
8.					White
9.					White
10.					Black
11.					White
12.					Black
13.					White
14.					White
15.					White
16.					White
17.					Black
18.					Black
19.					Black
20.					White
21.					White
22.					Black
23.					Black
24.					White

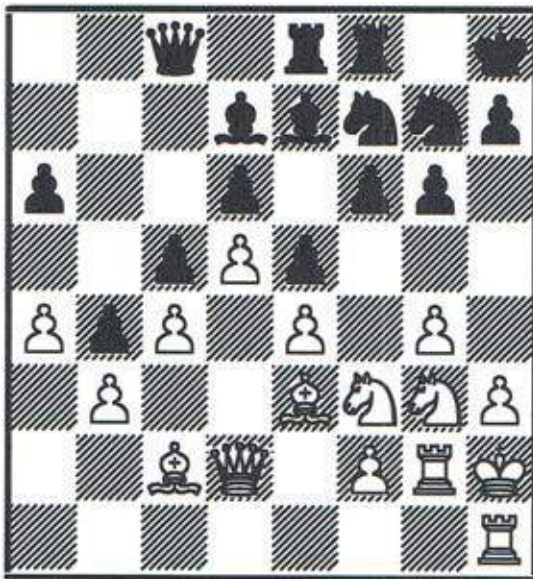
100



BK Test Position 1

Black to move

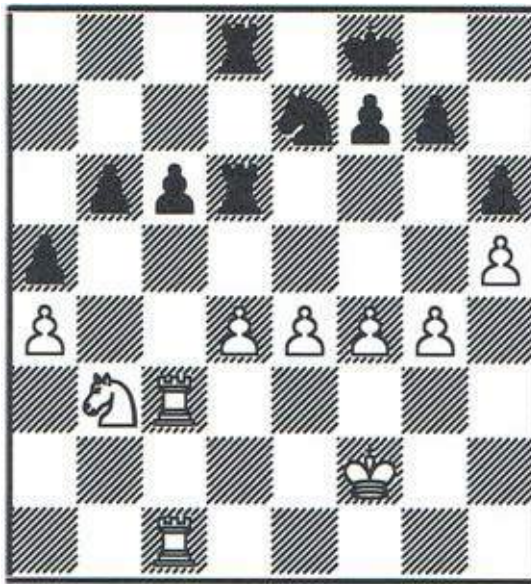
101



BK Test Position 2

Black to move

102



BK Test Position 3
White to move

103



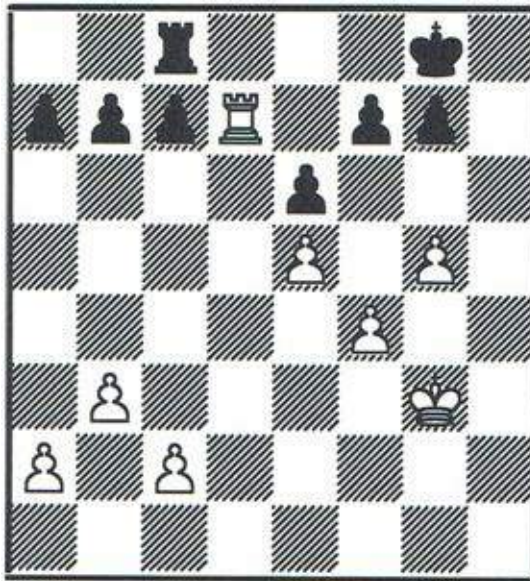
BK Test Position 4
White to move

104



BK Test Position 5
White to move

105



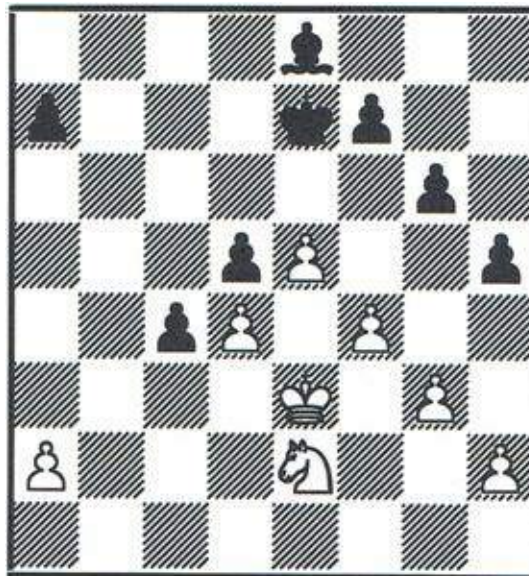
BK Test Position 6
White to move

106



BK Test Position 7
White to move

107



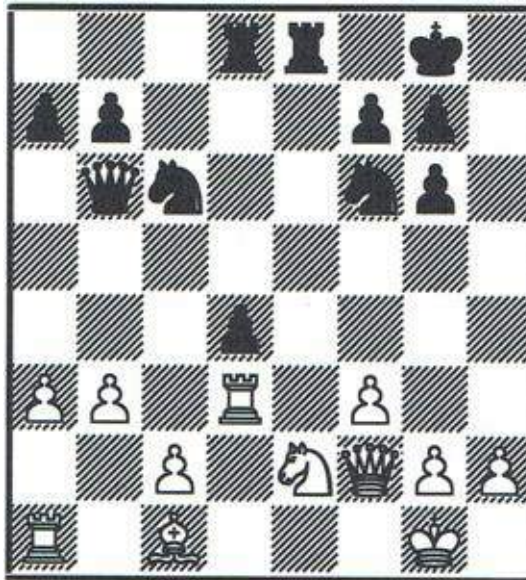
BK Test Position 8
White to move

108



BK Test Position 9
White to move

109



BK Test Position 10
Black to move

110



BK Test Position 11

White to move

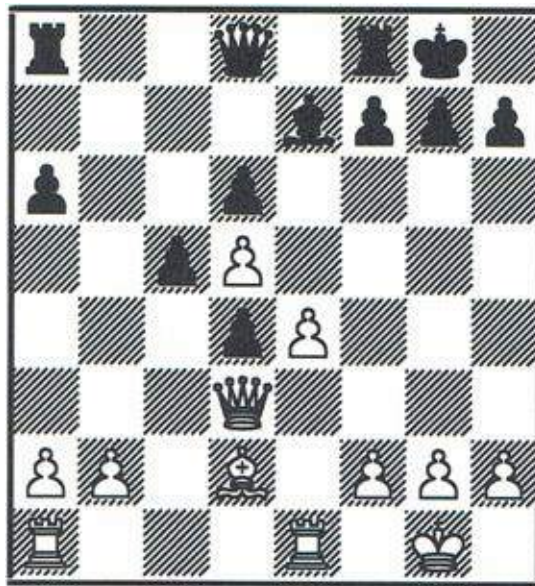
111



BK Test Position 12

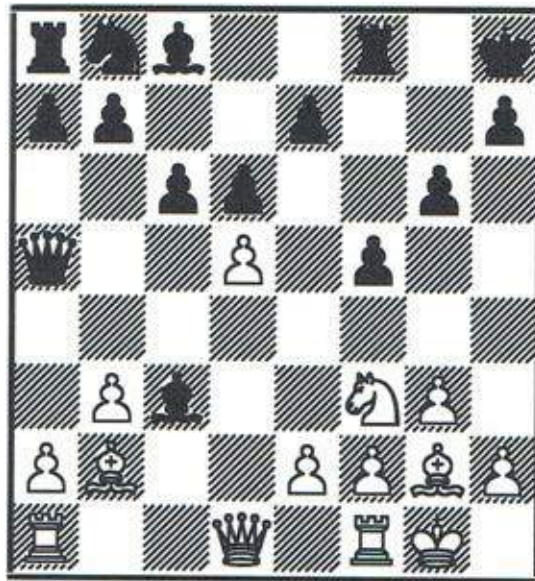
Black to move

112



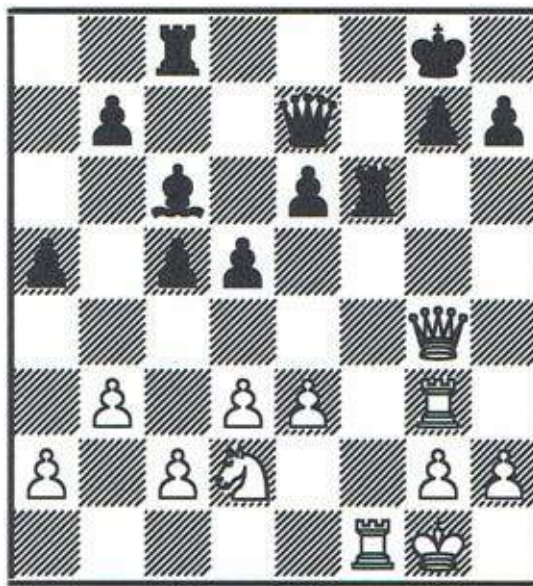
BK Test Position 13
White to move

113



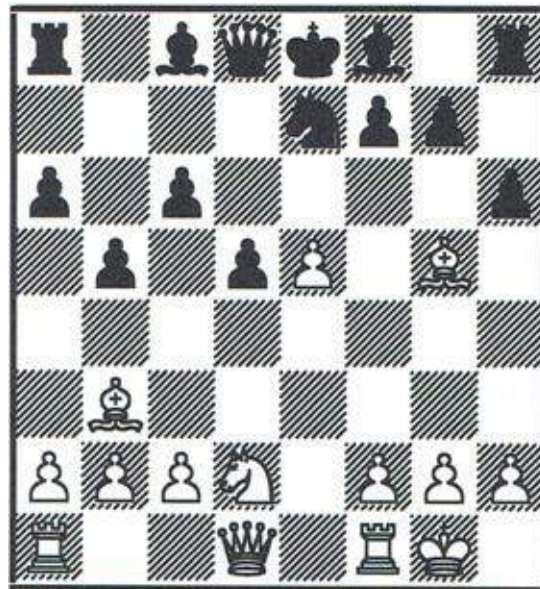
BK Test Position 14
White to move

114



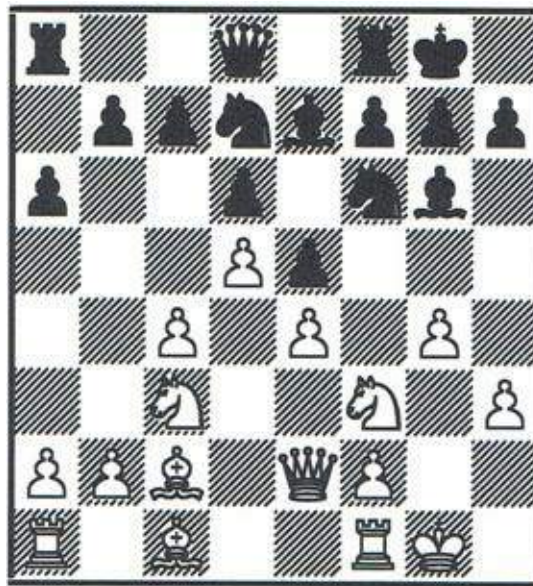
BK Test Position 15
White to move

115



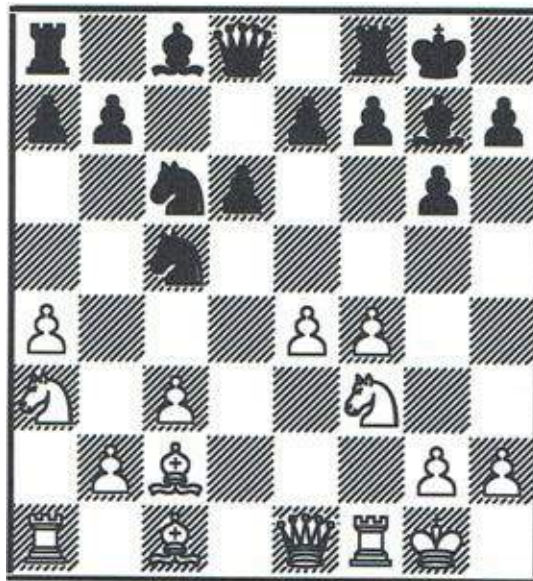
BK Test Position 16
White to move

116



BK Test Position 17
Black to move

117



BK Test Position 18
Black to move

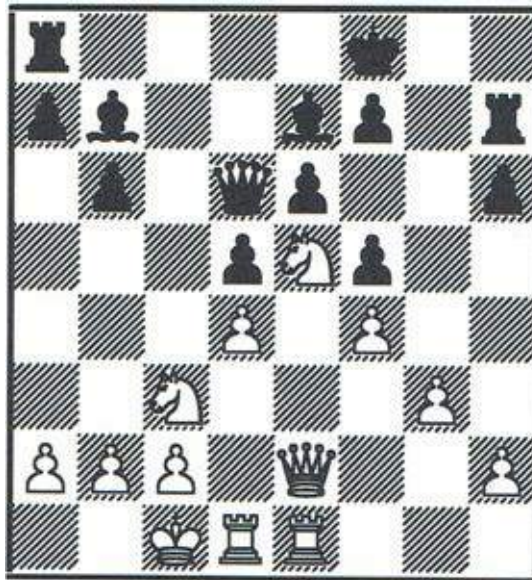
118



BK Test Position 19

Black to move

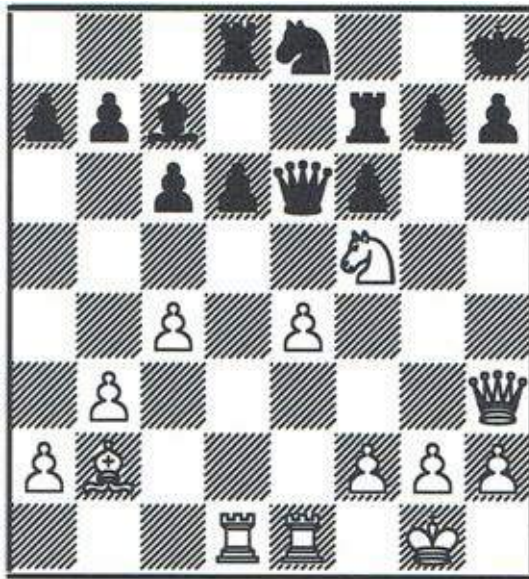
119



BK Test Position 20

White to move

120



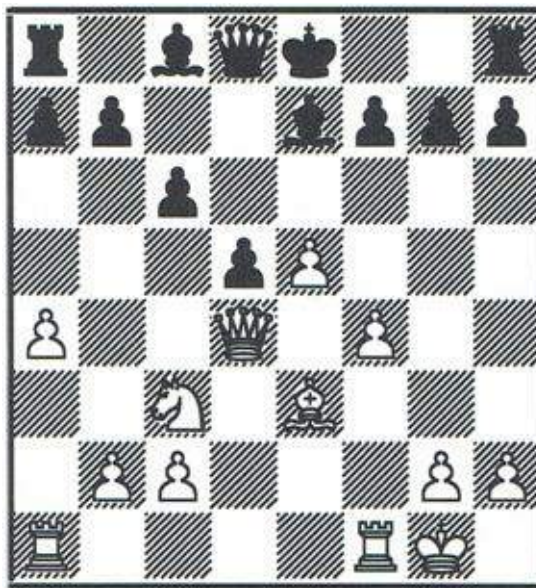
BK Test Position 21
White to move

121



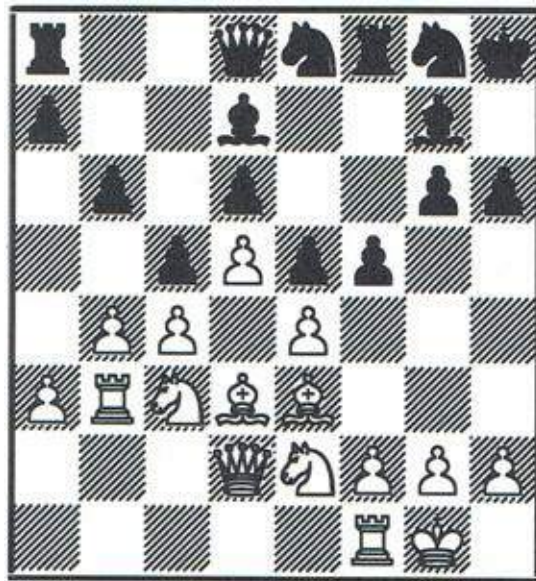
BK Test Position 22
Black to move

122



BK Test Position 23
Black to move

123



BK Test Position 24
White to move

Solution Key to the Bratko–Kopec Test

Position Number	Side to Move	Position Type	Level of Difficulty	Solution
1	B	Tactical	1	1...Qd1+
2	B	Lever	2	1...f5
3	W	Lever	3	1.d5
4	W	Lever	3	1.e6
5	W	Tactical	3	1.Nd5 (or 1.a4, L)
6	W	Lever	2	1.g6
7	W	Tactical	4	1.Nf6
8	W	Lever	3	1.f5
9	W	Lever	2	1.f5
10	B	Tactical	2	1...Ne5
11	W	Lever	2	1.f4
12	B	Tactical	1	1...Bf5
13	W	Lever	2	1.b4
14	W	Tactical	2	1.Qe1 or 1.Qd2
15	W	Tactical	2	1.Qxg7+
16	W	Tactical	3	1.Ne4
17	B	Lever	2	1...h5
18	B	Tactical	4	1...Nb3
19	B	Tactical	3	1...Rxe4
20	W	Lever	2	1.g4
21	W	Tactical	2	1.Nh6
22	B	Tactical	4	1...Bxe4
23	B	Lever	4	1...f6
24	W	Lever	2	1.f4

Max=60

Discussion: The Bratko-Kopec Test

In the early years of the computer chess era (mid to late 1980s) there were a number of programs which could play above the master level and a few which could compete on a par with grandmasters. The rudiments of their success was the ability to search exhaustively seven to ten ply (half moves) or more. This gave them a superiority over humans of the same rating in solving tactical problems, but not necessarily in positional play. Today of course, nearly all serious computer chess programs can perform on a level equal to or superior to Grandmasters, routinely doing exhaustive searches of 20-25 ply.

In 1982 Dr. Ivan Bratko and I, then a graduate student at the Machine Intelligence Research Unit, at the University of Edinburgh, designed an experiment to try to obtain some quantitative support for the above proposition. Our test positions were chosen with the view that a certain type of positional move (a pawn move called a lever) can play an important role in the strong player's ability to find the best move in a position. Our hypothesis was that strong computer programs will score better than humans of the same rating on tactical problems, but will only find critical positional moves when the best positional move also leads to material gain within the programs' search limits.

Since 1982 this test, known as the Bratko–Kopec Test, has been used around the world by computer chess programmers to evaluate the strength of their programs. It has proven a very reliable way to measure the strength of computer chess programs as well as humans. Over the years we have tested about two hundred human subjects (including a former world champion), although results for only about seventy have been published. In addition, many computer programs have used it as a standard against which to measure their progress.

Experimental Design

The Bratko–Kopec Test consists of twenty-four positions (twelve lever and twelve tactical positions). The sources used were primarily Hans Kmoch's 1959 classic *Pawn Power in Chess*, *The Best Move* (Hort and Jansa, 1980), *Informator 18* (Matanovic, 1975), and *Modern Chess Tactics* (Pachman, 1973). In essence, the test requires subjects to find the best move in positions of two fundamentally different types:

- (1) tactical positions in which a lack of chess knowledge can be compensated for with calculation; and
- (2) lever positions where the lack of chess knowledge cannot be compensated for. The experiment is portable, is available in electronic form (as are all the test sets and positions discussed in this book) and can be administered, e.g. by mail, (or e-mail) to any chessplayer, human or machine in the world.

Tactical moves are those which involve the interaction and possible capture of White and Black forces and include:

- (1) checkmate or gain of material; and/or
- (2) a distinct improvement in terms of positional ends (e.g. mobility); and/or
- (3) the defense to some immediate threats.

Our definition of levers is based on Kmoch's but includes a few additions, although the overall concept is unaltered. A lever is a pawn move which:

- (1) offers to trade itself; and
- (2) leads to an ultimate improvement in the pawn structure of the side playing it; and/or
- (3) damages the opponent's pawn structure.

Summary of Results

Our original published results (Kopec and Bratko, 1982) were based on twelve computer programs and thirty-five humans. Readers are referred to this paper for more details about the background of this work, related work and results. Here we will summarize the conclusions of that study:

- (1) The test is a reliable measure of ELO rating both for humans and computer programs. For example, a novice would be expected to score 0–5 (of 24), a club player (1400–1900) should score in the range 5–10, and expert should score 10–14, a master should score 15–19, a senior master or IM, around 20 or more.
- (2) Computer programs score relatively higher on tactical (T) positions than humans of the same rating.
- (3) Generally, players who score less than fifteen (usually those rated below the master level) have a higher T component in their scores than a L (lever) component.
- (4) Primary improvement of players at and above the master level is in the L component.
- (5) Computer programs are lacking in positional knowledge and therefore score significantly worse in the L positions. This demonstrates the importance of domain specific knowledge in chess.

Scoring

Scoring on the BK–Test is accomplished by making two columns on the answer sheet (or on a separate sheet of paper), after you have taken the test. A straight line down the length of the sheet with a “T” on the left of the line and an “L” on the right of the line.

As you go down the answer sheet, give the appropriate credit (1, 1/2, 1/3, 1/4, or 0 points) to the appropriate positions in each column. For example, if ...Qd1+ is given as the preferred move in Position 1, then the testee gets a “1” in the T column for Position 1. Then if 1.d5 is suggested as the 3rd Choice move in Position 2 then the testee gets a credit of 1/3 in the L column for Position 2.

Finally, the points in each column are tallied up and the subject gets a Total Score, as well as a T score (for tactics) and an L score (for levers).

You should also add up your level of difficulty score. Give yourself the full level of difficulty number if the correct move was any of your four choices. This is just another way to gain insight into how you (a subject) are performing on a test. You can tell whether you are doing uniformly poorly or well on all kinds of positions, or only on ones which the authors have determined to be particularly easy or difficult.

We believe that there is an increasing gradient of difficulty as you go from the BK Test to the New Positions Test to the Camp Test Positions. Difficulty ratings across these tests are provided with respect to the positions within each test. Positions with a difficulty rating of 4 are deemed hard even for players Master level and above. The difficulty levels in the Novtest (Chapter 5) are, in contrast, with respect to difficulty for players of up to about 1700 playing strength.

Overview and Discussion

A number of human subjects have made interesting comments and criticisms after participating in the experiment. Some suggested that they would have fared much better had they been given an initial few “training positions to get some idea of what was being asked for in the experiment. However this would give us no fair method of comparing human results with computer results. Others stated that in a number of positions they could guess the “characteristic” move (often the move scored as correct) in two minutes or under tournament time constraints (usually more than two minutes per move) but that they could not calculate the move’s consequences and therefore would probably not play it. Quite a few subjects, particularly those who were students of Bobby Fischer’s games, recognized position 15, where Fischer played Qxg7+ against Mecking in the 1970 Palma de Mallorca Interzonal. Nevertheless, we do not feel that either this position or indeed any other that may be recognized, invalidates their inclusion in the experiment. A chess player’s experience or education can also be used as a contributing factor to help measure his/her ability. Certainly, a few positions in the experiment are not ideal, and a few are even controversial as to what the best move is, but this will not significantly invalidate a human or machine subject’s overall score.

There are a number of other possible criticisms of the experiment. First, there is the observation that many programs score surprisingly well, outscoring strong human players who would probably beat these programs under tournament conditions. One explanation for this is that the test conditions were more favorable to machines than to humans. During actual games human players tend to non-uniformly allocate their time to individual moves. Thus a chess master typically spends ten or twenty or more minutes in a position which is identified as “critical” for finding a key move or a key plan, and then might play the next few moves instantly. In contrast, most programs must more or less repeat their whole analysis after each reply by the opponent. Therefore the programs were probably not as handicapped as humans by the two minute time limit in the experiment.

There is another explanation for why the experiment ranked some of the programs higher than humans of similar tournament strength. The scores on the test were based on the ability to find a correct move in individual, mutually independent positions, and not on a correct sequence of moves in a whole game. A program may be able to find a correct move(s) in a sequence of positions of the same game. However, although each of the moves may be correct, in a sequence they may not achieve a desired cumulative effect as they may belong to different plans, each of them winning alone but not if combined with others. Therefore, in an actual game, a program’s individually correct moves may not be as efficient as a human’s sequence of moves. The human’s suboptimal sequence of moves may nonetheless consistently follow the same plan. (This idea is Ivan Bratko’s.)

Another weakness of the experiment may be that in some of the positions there is more than one good move. Measures of S, L, and T were based on the comparison of one correct move with the move(s) proposed by the subjects, and therefore cannot be considered absolutely reliable. One way to bring this effect into account would be to base the interpretation of the results on the mutual similarity of subjects’ responses instead of on the absolute correctness criterion.

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BK Position 1 Andersson - Knuttson



Sweden, 1974

1...Qd1+ 2.Kxd1 Bg4+ 3.Ke1 Rd1# This requires little explanation. If you have seen this theme of a queen sacrifice followed by a double discovered check then you will find it. (Source: Chess Informant 18, Combination #9)

BK Position 2 Evans - Rossolimo



U.S. Open, 1955

1...f5 This position (selected in 1982) stood the test of time for over 25 years. However, now computer analysis has revealed a flaw. Because the BK and New Positions tests are as much historical documents as practical test sets, we could not just replace the position. We are keeping the original solution (which is not so bad for a human student picking a move in two minutes) but making note of the improvement found by the computer. The text to the original solution now follows: This exemplifies a classic lever around which Black has organized nearly all his forces. Without knowing

about levers, computer programs can still select this move because it improves mobility, gains space and attacks the center. This position is also an example of the value of chess erudition. Those with a strong chess historical background would know that such positions can arise from the closed variations of the Ruy Lopez when White plays d5. In such instances the structure becomes that of a King's Indian Defense. A sample continuation is

2.exf5 gxf5 3.gxf5 Nxf5 4.Nxf5 It is here that the computer points out that **4.Qd3!** is very strong for White. The threat on h7 practically paralyzes Black's forces. The best try is **4...e4** (Trying to "stand pat" with something like **4...Nd8** fails to **5.Rhg1 Nb7 6.Ng5 Nd8 [6...Bxg5 7.Bxg5 Na5 8.Ne4 with Bf6 to follow.] 7.Nxh7! Kxh7 8.Qe2 +-)** **5.Nxe4 Nxe3 6.Qxe3 Bf5 (6...Bxh3 7.Rg3 Bf5 8.Qc1) 7.Rhg1** when Black is struggling to survive, though the computer does not see an actual forced win. **Bxf5 5.Bxf5 Qxf5** and Black has the advantage, based on his superior pawn structure and play on the half open f-file. (Source: Pawn Power in Chess, Diagram 164)

BK Position 3 Bogoljubow - Spielmann



Match Game, 1932

1.d5 cxd5 2.e5 R6d7 2...d4? 3.exd6 dxc3 4.dxe7+ wins a piece. 3.Nd4 This is an example of a very characteristic lever, the "sweeper sealer twist" (Knoch, 1959). It involves a long term pawn sacrifice where, at the end of the principal variation (above), White has: (1) gained full control of the open c-file, (2) sealed off Black's half open d-file, (3) gained a tremendous central post for his N, (4) weakened Black's pawns into three groups (three islands) and (5) gained a K-side majority of pawns. (Source: Pawn Power in

Chess, Diagram 144)

103

BK Position 4 Spielmann - Walter



Trenstschin-Teplitz, 1928

1.e6 fxe6 If 1...cxd4 2.Qb5+ Nd7 (2...Bd7 3.Qxd5 Or 3.exf7+ also wins.) 3.Qxd5 +- **2.Qh5+ Kd7** On 2...g6 3.Qe5 ± Rg8 4.Nxe6 White is winning. **3.Nf3** This is an example of the "Night attack" (another Knoch term). The idea of this pawn lever is to split Black's game into two halves caused by his doubled e-pawns. This makes Black's coordination of forces and development difficult. In such instances, it is important for White to control and blockade Black's doubled pawns with pieces. It is arguable that 1.e6 is a very tactical move, but the game continuation (main variation above)

indicates a pawn sacrifice for positional as well as tactical ends, despite the fact that White delivered mate on move 20! (Source: Pawn Power in Chess, Diagram 146)

104

BK Position 5 Rogolewicz - Jarecz



Poland, 1974

1.Nd5! is a typical Sicilian tactical stroke which exploits Black's hanging Rook on a8. The variations below cover only a few of the many complicated possibilities after the move 1.Nd5. The lever 1.a4! was found by 12 year old Mark Condie (now an IM) and is also an acceptable choice of first move for which White gets full credit under L.

1...Nxd5 If 1...Qb7 2.Nb6 Rb8 3.Nxc8 Qxc8 4.e5+- or 1...exd5 2.Bxd5+ Nxd5 3.Qxd5+ Be6 4.Qxe6+ ± **2.Bxd5** The game continuation. Because of a possible defense, missed by Black in the game, an attempt to improve is

2.Rxf8+ Kxf8 (2...Bxf8 3.Bxd5 Rb8 4.Qa7 transposes to the game.) and now:
 (a) 3.exd5 e5 4.Rf1+ Bf6 (4...Kg8 5.Qxe5! dxe5 6.d6+ Qc4 7.Bxc4+ bxc4 8.dxe7) 5.Qe4 Kg8 6.c3 intending Bc2, with complicated play where the outcome is not clear.
 (b) 3.Bxd5 exd5 4.Rf1+ Ke8 (4...Kg8 5.Qxd5+ +-; 4...Bf6 5.e5!! dxe5 6.Qxd5 and now the position becomes very unclear. The only move is 6...Qb7 found by Fritz 3. White can make life miserable for the

Black King but a forced win is not evident. The student is encouraged to analyze the position further on his own.) 5.Qxd5 Another unclear position where White has some pressure but nothing forced.

2...Rb8? Better was 2...Rxf1+ 3.Rxf1 Rb8 4.Qa7 Bd8! This saving defensive move was also found by Mark Condie, and is the reason for the attempt to improve White's play with 2.Rxf8+. 3.Rxf8+ Bxf8 4.Qa7 Qxa7 5.Bxa7 exd5 6.Bxb8 1-0 (Source: Chess Informant 18, Combination #24)

105

BK Position 6



Composition, Kmoch

1.g6! This temporary endgame pawn sacrifice is necessary immediately, in view of Black's threat to equalize with ...g6 and ...Kf8-e8. White will follow with Kg4-g5 etc., winning easily. **1...fxg6 2.Kg4 Kh7 3.Kg5!** It is important that White does not allow himself to be diverted by non-essential features of the position (see 3 Re7? below). He should (1) Keep control of the d-file and prevent Black's Rook from becoming active. (2) Advance his King as far as possible. (3) Advance his queenside pawns, being careful not to allow Black to find a lever opening a file, which could activate his rook.

3.Re7? chasing the e-pawn, would be bad because of 3...Kg8 4.Rxe6?? Kf7 wins for Black. (Source: Pawn Power in Chess, Diagram 105)

106

BK Position 7 Golyak - Gaiduk



Modern Chess Tactics/Pachman

This is one of the harder positions where many humans miss the main tactical theme: **1.Nf6! gxf6 2.exf6** and White either forks the rooks or wins the knight on e7. Many subjects suggest 1.Bb4, a good intermediary move, but there is no way of determining whether 2.Nf6 is their intended followup. (Source: Modern Chess Tactics, Diagram 3)

107

BK Position 8 Alekhine - Yates



Hastings, 1926

Black suffers from a classic weakness of the dark squares, hence: **1.f5** eventually forces access to the f4 square for White's knight. **1...g5** Fine discusses in Basic Chess Endings (#526, page 251 in the new edition or in the first edition, #256, page 247) that after **1...gxf5 2.Nf4 Bc6 3.Nxh5 Kf8** he couldn't find a win for White. In the second edition of this book, I (DK) thought I had found a straightforward winning plan for White. However, subsequent computer analysis proved this was not so and, as far as we can determine, there is no win. **2.h4 f6 3.hxg5 fxe5 4.Ng1 Bd7** If **4...h4 5.g4!**

Ba4 6.Ke2! c3 7.Nh3 c2 8.Kd2 Notice that Black's passed c-pawn is ineffective because of his inability to control the dark squares. **8...Bb5 9.Nxe5 Be2 10.f6+ Ke8 11.e6 Bxe4 12.f7+ Ke7 13.Nh7** and wins. **5.f6+ Ke8 6.Nf3 g4 7.Nh4 Be6 8.Ng6 Bf7 9.Nf4 Kd7 10.Ke2 a5 11.Ke3** Black has no useful moves and will soon have to move king or bishop. (Source: Pawn Power in Chess, Diagram 65)

108

BK Position 9 Jansa - Weinstein



Helsinki, 1961

1.f5 Many subjects choose **1.Bb5** but the main theme is to follow the lever **1.f5** with **2.Bd3** and then **Ne2-f4** etc. White implements the famous Nimzovich strategy Blockade, Attack, Destroy. Black cannot play **1...e5** because after **2.dxe5** his f-pawn is pinned. (Source: The Best Move, Diagram #14)

109

BK Position 10 Kabadzjan - Cibelasvili



USSR, 1974

1...Ne5 Removes the blockader and leads to the opening of the g1-a7 diagonal. **1...Qc5**, suggested by many computer programs, is interesting but clearly not best. White has **2.c4** or **2.c3** as possible answers. **2.Rxd4** If **2.Rd1 Neg4! 2...Neg4!! 3.fxe4 Nxe4** Black wins material. For example: **4.Qf3 Rxe2 5.Qxe2 Qxd4+** (Source: Chess Informant 18, Combination #45)

110

BK Position 11 Byrne - Kotov



USA-USSR Team Match, 1954

1.f4 is a straightforward space gaining lever, though if Black's pieces (especially his knights) had easy access to e5 then this would be a poor move due to the resulting backwardness of White's e-pawn. (Source: Pawn Power in Chess, Diagram 177)

111

BK Position 12



Composition/Pachman, 1973

1...Bf5 A simple defensive tactic, the only move which defends both of White's threats. This is a type of control position which everyone is expected to solve. (Source: Modern Chess Tactics, Diagram 3)

112

BK Position 13 Pfeiffer - Trifunovich



W. Germany/Yugoslavia Match, 1954

1.b4 Black suffers from a weakness of the white squares, which Kmoch called "leucopenia." The sophisticated lever 1.b4 enables White to advance his central pawns after bxc5 and Qc4. If Black plays 1...cxb4 2.Bxb4 one of his weak doubled d-pawns will soon fall. No credit for 1.f4, since White does not threaten e5 and Black has...a5 with counterplay on the b-file.

113

BK Position 14 Robatsch - Jansa



Soci, 1974

1.Qe1 A straightforward crossfire/pinning tactic that wins material. 1.Qd2 would also work. (Source: Chess Informant 18, Combination #32)

114

BK Position 15 Fischer - Mecking



Palma de Mallorca Interzonal, 1970

1.Qxg7+ Qxg7 2.Rxf6 After the further: **2...Qxg3 3.hxg3** later followed by g4-g5-g6, Fischer managed to trade off his extra, doubled g-pawn to remain a pawn ahead. (Overloaded Black queen.)

115

BK Position 16 Vasilchuk - Bobolovitch



1973

This is a tactical position where after: **1.Ne4** White is guaranteed at least positional gains with Nd6+ to follow. Thus: **1...Be6** If 1...dxe4 2.Bxf7+ Kxf7 3.Qxd8 hxg5 and although Black has obtained three pieces for the queen, his exposed king, pawn deficit and poor piece coordination mean that he does not have sufficient compensation. **2.Nd6+** with a big positional plus. **2...Kd7 3.Be3** planning to follow with f4. If Black tries to interrupt this plan with **3...Nf5** then after **4.Nxf5 Bxf5 5.c4!** White retains a significant edge because the Black King has still not found shelter and he lags in development.

(Source: Modern Chess Tactics, Diagram 18).

116

BK Position 17 Van den Bosch - Kmoch



Baarn, 1941

1...h5 The idea is ...hxc4, followed by ...Nh7-g5. The move 1...Ne8 was played in a game Alekhine-Johner, with Black getting a cramped and miserable game. 1...h5! was an improvement played by Kmochn in one of his games. The idea is that White has weakened himself on the dark squares ("melanpenia") and this is the way to exploit them. If **2.g5 Nh7 3.h4 f6!** (Source: Pawn Power in Chess, Diagram 176)

117

BK Position 18 Maric - Fischer

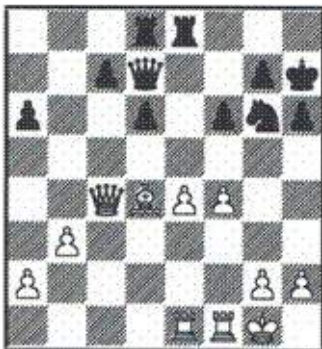


Skopje, 1967

This is from a Fischer game which exemplifies that achievement of the two bishops vs bishop and knight in a semi open position is, at the highest levels of play, tantamount to material gain. After: **1...Nb3! 2.Bxb3 Qb6+ 3.Kh1 Qxb3** White relinquishes the two bishop advantage to Black and is left weakened on the light squares. Very few humans found 1...Nb3, most stronger ones suggesting 1...Qb6, 1...Be6 or even 1..d5. Although interesting, none of these is as clear as 1...Nb3. (Source: Bobby Fischer's Chess Games, #458)

118

BK Position 19 Euwe - Keres



World Ch. Tnmt., The Hague, 1948

1...Rxe4! The fork trick in action. After: **2.Rxe4 d5 3.Qxa6 dxe4 4.Be3 Qg4!** Keres quickly translates his central advantage into a winning kingside attack. **5.Qc4 Rd3! 6.Bc1 6.Qxe4?? Qe2 -+ 6...Nh4! 7.Qxe4+** If 7.g3 Rxc3+ -+ or 7.Rf2 Rd1+ -+ or 7.Qc2 f5! with the deadly threat of ...e3 (Kmochn). **7...f5 8.Qb7 c6 9.Qxc6 Rc3 10.Qd5 Rc5! 11.Qd2 Rxc1!** The point being 12.Rxc1 Nf3+. Black won. (Source: Pawn Power in Chess, Diagram #154)

119

BK Position 20 Euwe - Flohr



10th Match Game, Karlsbad, 1932

1.g4 This might be called an attacking lever, since the purpose is purely to expose the pawn shield in front of the black king. After: **1...fxg4 2.Qxg4 Rg7 3.Qh5** White will follow with f5. Notice how inactive Black's bishops are. (Source: Pawn Power in Chess, Diagram #90)

120

BK Position 21 Tarrasch - Blackburne



Manchester, 1890

1.Nh6 wins the exchange in all variations. You can't afford to miss such opportunities. (Source: Modern Chess Tactics, Diagram #27)

121

BK Position 22 Najdorf - Reshevsky



Match, New York, 1952

This is the hardest position of the entire set, at least for humans. Perhaps the fact that only one human subject of the original 35 (IM Craig Pritchett) and only 3 of the 17 computer programs in the original test, found the best move, is highly significant. Humans suggest reasonable and/or interesting moves such as 1...Rfd8, 1...Nc5, 1...d5, 1...Ne5 and 1...Nh5 which often come into consideration in similar positions. However, only the unusual combination beginning with: **1...Bxe4 2.Bxe4** followed by **2...Qxc4** leads to immediate advantage. **3.Qxc4 Rxc4 4.Nxb6 Rxe4 5.Nxd7 Nxd7** Depth of

search seems not to be the problem for humans in trying to find this combination; rather more likely is its individuality and the fact that many other good moves seem possible. (Source: Modern Chess Tactics, Diagram 50)

122

BK Position 23 Jansa - Kavalek



Harrochev, 1963

This is also a hard position in the sense that the "normal" 1...Bf5 is confronted with the very interesting 2.g4!? which most people (and computers) fail to consider adequately. Then, on either 2...Bxg4 (or Bxc2) White plays 3.f5 threatening f6.

The move: **1...f6** is an essential head pawn lever which meets the threat of 2.f5. After **2.exf6 Bxf6 3.Qc5** Black has a number of choices, including 3...Be7, 3...Qe7 and 3...Kf7. Instead, in the game Kavalek played 1...f5? when after 2.a5! followed by b4, Na4, Qc3 and Bc5, trading Black's good

Bishop, he found himself in a horrible bind. (Source: The Best Move, Diagram #24)

123

BK Position 24 Szabo - Ivkov



Buenos Aires, 1955

1.f4 The indicated duo lever, since White's superior pieces make it easier for him to maintain tension in the center. If now **1...g5!?** (as played) **2.g3 ±** with White keeping an advantage, since exchanges on e4 or f4 will only improve White's pieces. Not 2.fxg5 f4 3.gxh6 Bxh6 etc., with space and play for a pawn. (Source: Pawn Power in Chess, Diagram #160)

The New Positions Test

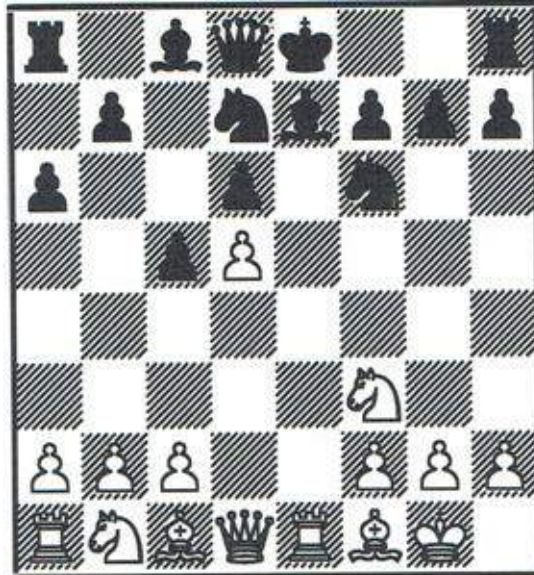
Instructions for taking this test

This test should be taken in the exact same way as the previous, Bratko–Kopec Test. For each of the following positions, you are allowed a total of two minutes to select your preferred move(s) and to write down up to four choices in order of preference. Write your first choice in the column labeled “Preferred Move”. Write your secondary choices in the columns labeled “2nd Choice”, “3rd Choice”, “4th Choice”. You will receive partial credit for correct move(s) selections in any column. If your first choice is the correct move, you receive a full point credit, if your second choice is correct it gives $\frac{1}{2}$ point credit, if your third choice is correct it gives $\frac{1}{3}$ point credit, and a fourth choice correct gives $\frac{1}{4}$ point credit.

***Answer Sheet for
New Positions Test***

Position Number	Preferred Choice	2nd Choice	3rd Choice	4th Choice	Side to Move
1.					Black
2.					White
3.					Black
4.					White
5.					White
6.					Black
7.					Black
8.					White
9.					White
10.					Black
11.					White
12.					White
13.					Black
14.					Black
15.					White
16.					White
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18.					White
19.					White
20.					White
21.					White
22.					Black
23.					Black
24.					White

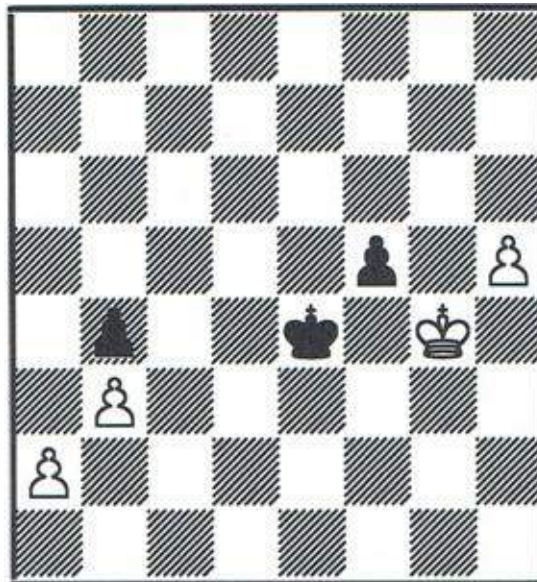
124



New Positions Test Position 1

Black to move

125



New Positions Test Position 2

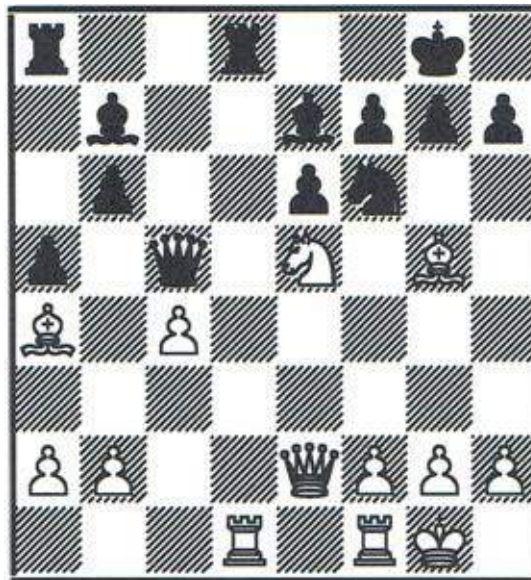
White to move

126



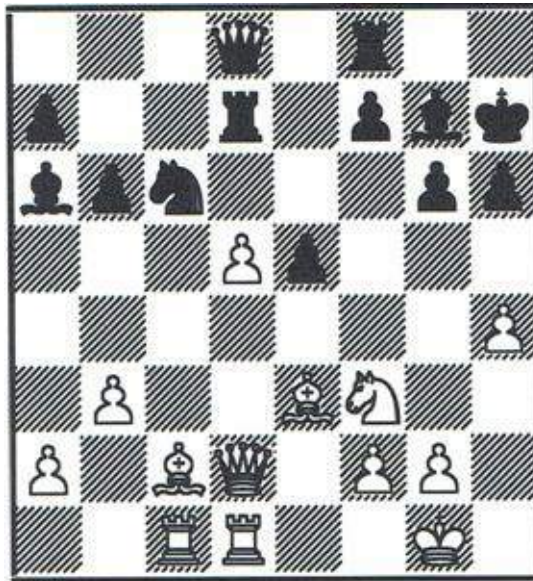
New Positions Test Position 3
Black to move

127



New Positions Test Position 4
White to move

128



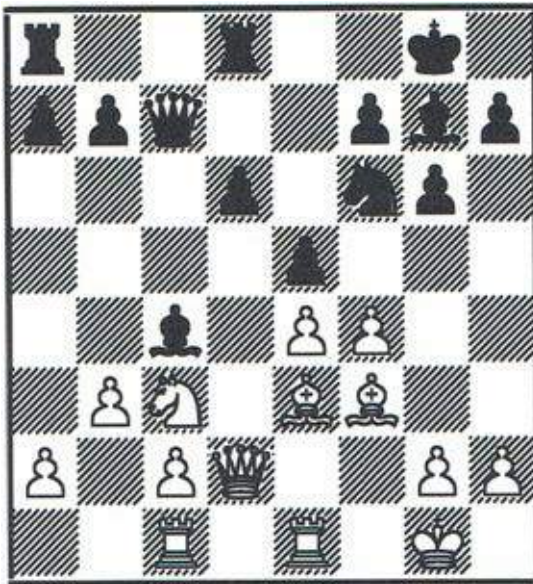
New Positions Test Position 5
White to move

129



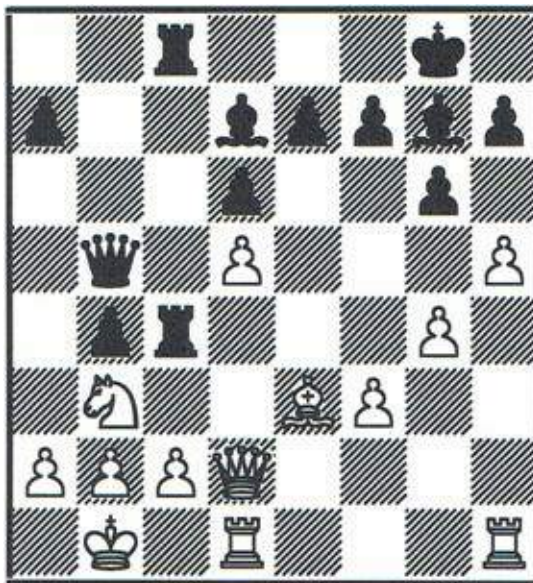
New Positions Test Position 6
Black to move

130



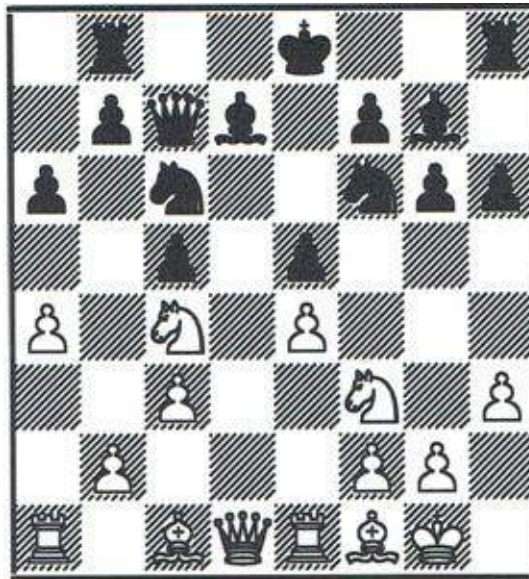
New Positions Test Position 7
Black to move

131



New Positions Test Position 8
White to move

132



New Positions Test Position 9

White to move

133



New Positions Test Position 10

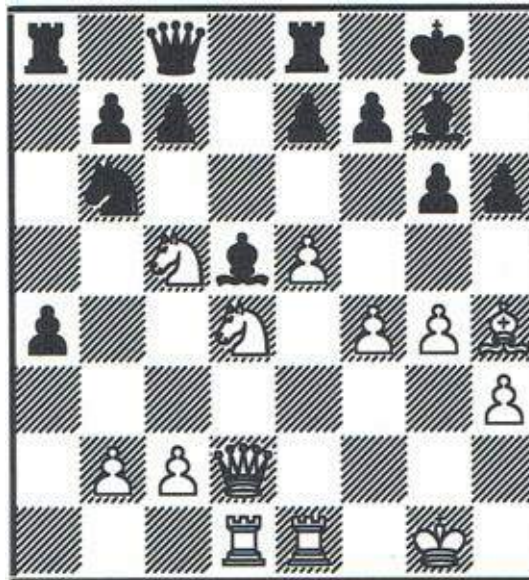
Black to move

134



New Positions Test Position 11
White to move

135



New Positions Test Position 12
White to move

136



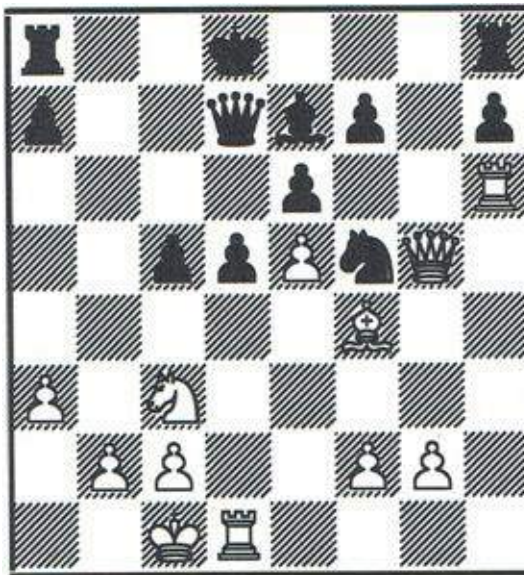
New Positions Test Position 13
Black to move

137



New Positions Test Position 14
Black to move

138



New Positions Test Position 15
White to move

139



New Positions Test Position 16
White to move

140



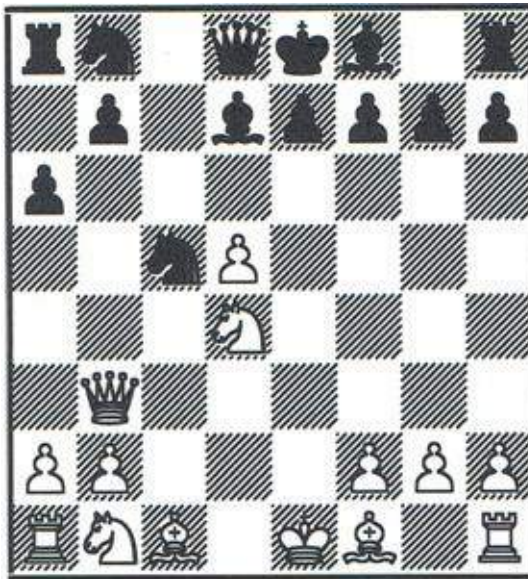
New Positions Test Position 17
White to move

141



New Positions Test Position 18
White to move

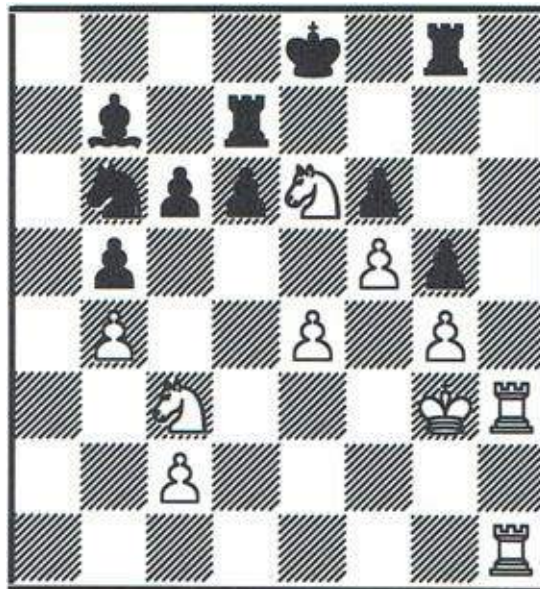
142



New Positions Test Position 19

White to move

143



New Positions Test Position 20

White to move

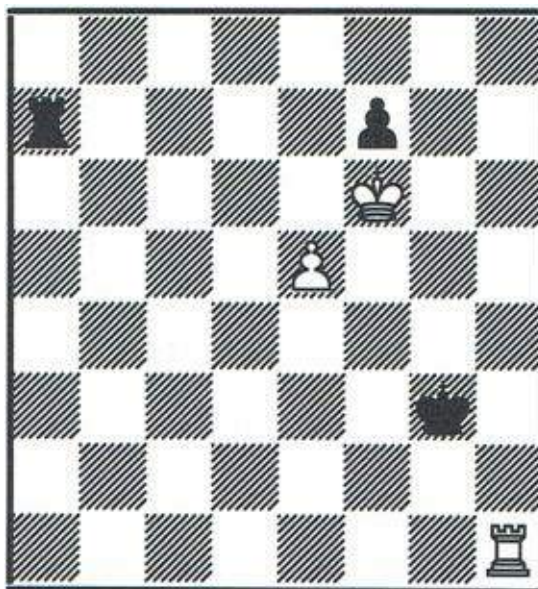
144



New Positions Test Position 21

White to move

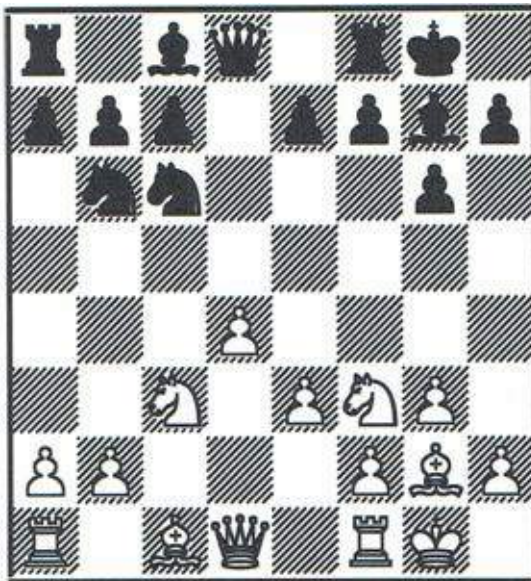
145



New Positions Test Position 22

Black to move

146



New Positions Test Position 23
Black to move

147



New Positions Test Position 24
White to move

Solution Key to the New Positions Test

Position Number	Side to Move	Position Type	Level of Difficulty	Solution(s)
1	B	Lever	2	1...b5
2	W	Tactical	3	1.Kh3
3	B	Lever	2	1...c5
4	W	Tactical	3	1.Bxf6
5	W	Lever	2	1.h5
6	B	Tactical	4	1...Nxf3+
7	B	Lever	4	1...d5
8	W	Tactical	3	1.Na1
9	W	Lever	3	1.b4
10	B	Lever	3	1...d5
11	W	Tactical	3	1.Nf5+
12	W	Tactical	2	1.e6
13	B	Tactical	4	1...b4
14	B	Lever	3	1...e5
15	W	Tactical	4	1.Qxf5 or 1.Rf6
16	W	Tactical	4	1Bb6+
17	W	Lever	2	1.d6
18	W	Lever	2	1.Be3 or 1.b4
19	W	Tactical	3	1.Qe3
20	W	Lever	2	1.e5
21	W	Tactical	3	1.h7
22	B	Tactical	3	1...Kg4
23	B	Lever	2	1...e5
24	W	Tactical	3	1.Kg2

Max=69

Discussion: The New Positions Test

The test you have just taken measured the same knowledge as in the previous test: your knowledge of levers, the concept introduced in the first test set. If you have learned this concept well as a result of the first test's material, then this knowledge will be demonstrated in your performance on this second test set. We believe that you will find these positions more diverse in the types of tactical and lever motifs that are presented.

In general, this set is probably a little harder than the Bratko–Kopec Test because the motifs, both in terms of levers and tactics, are more subtle. The positions are not as characteristic or typical of the levers and tactics represented.

Examples of some of the concepts tested include: lever timing, unique king moves, forcing variations, sweeper-sealer levers, trapped pieces with miniature combinations, characteristic levers, logical defense, finding the best order of implementation, and queen sacrifices for various purposes and forms of compensation.

Scoring

Scoring on the New Positions Test is done in exactly the same way as on the Bratko–Kopec Test of Chapter 1. Again, this is accomplished by making two columns on the answer sheet or another sheet of paper (after you have taken the test). A straight line down the length of the sheet with a “T” on the left of the line and an “L” on the right of the line.

As you go down the answer sheet, give the appropriate credit (1, 1/2, 1/3, 1/4, or 0 points) to the appropriate positions in each column. Finally, the points in each column are tallied up and the subject gets a Total Score, as well as a T score (for tactics) and an L score for levers. Once again, you should also add up your level of difficulty score.e.g.

Position Number	Side to Move	Preferred Move	2nd Choice	3rd Choice	4th Choice	T	L
1	B	...b5					1
2	W	Kg3	Kh3			1/2	
3	B	...c5					1

Complete Solutions to the New Positions Test

124

NewPos Position 1 Watson, W - Kopec



Phillips & Drew, 1982

Black has the duo forming lever type expansion **1...b5**, and should not delay it as occurred in actual play with **1...0-0?**, when **2.a4** made **...b5** nearly impossible for the rest of the game. After **1...b5**, Black need not fear the pin **2.Qe2** since he has adequate resources with **2...Nxd5**.

125

Newpos Position 2 Kmoch - Van Scheltinga



Amsterdam, 1936

1.Kh3! All other moves allow Black to queen as well. (This is based on a study by Botvinnik. Note that the solution in *Basic Chess Endings* (1st edition, #55) is wrong. The position was removed from the 2nd edition.)
1...Ke5 If **1...f4** **2.h6** **f3** **3.h7** **f2** **4.Kg2** +- **2.Kg3** **Ke6** **3.Kf4** **Kf6** **4.h6** **Kg6** **5.h7** **Kxh7** **6.Kxf5** +-

126

Newpos Position 3 Furman - Ribli



Vidmar Memorial, 1975

The lever **1...c5!** which (1) gets rid of Black's backward c-pawn, (2) seals off the hole on c5 from White's pieces and (3) opens the d-file for Black's doubled rooks, is called for here. (Source: *Best Games of the Young Grandmasters*, now *World Title Contenders and their Styles*, Dover, p. 161)

127

Newpos Position 4 Kleboe - Weeden



Glasgow, 1981

1.Bxf6 Bxf6 2.Nd7 Qc7 This would be best. **2...Qg5 3.f4 Qg6 4.Bc2 Qh6 5.Nxb6 Bd4+ 6.Rxd4 Rxd4 7.Nxa8; 2...Qb4 3.b3** with the idea of **Qe3. 3.b3 Bc6 4.Bxc6 Qxc6 5.Nxf6+ gxf6** doesn't give White much. The point of this example is that White can force play and Black must play very accurately to maintain the balance. (Source: Mastering Chess, p.38)

128

Newpos Position 5 Kopec - Ocipoff



Pan Am Intercollegiate, 1974

1.h5 1.dxc6 Rxd2 2.Rxd2 Qa8 3.Rd6 deserves consideration. **1...Ne7 2.Nh4! Rxd5 3.hxg6+ fxg6 4.Qxd5!! 4.Bxg6+?! Nxg6 5.Qxd5 Qxh4; 4.Nxg6? Rxd2 5.Nxf8+ Kg8 4...Nxd5 5.Nxg6 Bb7** The computer prefers **5...Rf6 6.Rxd5 Rd6** etc. with only a slight edge for White. **6.Nxf8+ Kg8 7.Ne6 Qf6 8.Nxg7 Kxg7 9.Be4 Qf7 9...Nxe3 10.Rd7+ Kg8 11.Rxb7 +- 10.Bxd5 Bxd5 11.Rc3** Black has no answer to this Rook doubling maneuver. **11...Qb7 12.Rdc1 Qa6 13.Rc7+ Kg6 14.Rd7 Qd3 15.Rd6+ Kf5 16.Rxh6 a5 17.Rc8 Qb1+ 18.Kh2 Qxa2 19.Rxb6 Qe2 20.Rh8 Qf1 21.f3 e4 22.g4+ 22.Rh5** is mate but both sides were in time trouble. **22...Ke5 23.Rh5#** Attacking Lever. (Source: Mastering Chess, p. 106)

129

Newpos Position 6 McKay - Kopec



Scottish Championship, 1981

Black notices that both Knights are effectively trapped but his can desperado itself. **1...Nxf3+!! 2.gxf3** If **2.Qxf3? Qxb5 2...Qg5!** A quiet move with a sting. **3.Nxg6+ hxg6** Black is better due to the split pawns on White's Kingside. (Source: Mastering Chess, p. 47)

130

Newpos Position 7 Rauzer - Botvinnik



USSR, 1933

A famous Botvinnik game where he favorably burst open the center with the strongest "Sicilian Lever." **1...d5!** -/+

- (a) 2.bxc4 dxe4 recovers the piece with the better game.
 - (b) 2.Nxd5 Bxd5 3.exd5 e4 4.Be2 Nxd5
 - (c) 2.fxe5 Nxe4 3.Bxe4 dxe4 followed by ...Qxe5 with advantage.
 - (d) 2.exd5 e4! 3.bxc4 exf3 with a strong attack.
- (Source: Meet the Masters, p. 147)

131

Newpos Position 8 Jansa - Bilek



Polanica Zdroj 1968

This is a unique case where it's best to defend fully and properly for one more move and then consummate the attack. Therefore: **1.Na1** (a very unusual retreat) and then the straightforward threat of Qh2, hxg6, Qh7+ and Bh6 is too strong. After 1.Nd4?! Black has defensive resources with 1...Bxd4. (Source: The Best Move, Diagram #75)

132

Newpos Position 9 Andersson - Portisch



Skopje, 1972

Here there are a number of attacking concepts including 1.Nd6+ (?), 1.Qd6 (also not best), and the positional 1.a5, but

1.b4 is clearly sharpest, with many threats, e.g. **1...cxb4 2.cxb4 Nxb4 3.Ba3** etc. (Source: *Best Games of the Young Grandmasters*, now *World Title Contenders and their Styles*, Dover, p. 100.)

133

Newpos Position 10 Yasutake - Kopec



New England Open, 1983

1...d5 The lever 1...d5 has a paradoxical effect in that it forces open the position for Black's pieces while appearing to shut in the queen's bishop. (On 1...e5 2.d5 Nd4 seems to give Black even a bigger edge according to the computer, but we know how much they favor bishops over knights.)

2.cxd5 If 2.c5 bxc5 3.Rxc5 Nxd4; If 2.b3 e5! 3.cxd5 (3.dxe5 Nxe5 4.cxd5 Rxc1 5.Rxc1 Bxd5 with advantage to Black.) 3...Nxd4 is good for Black. (Less clear is 3...exd4 4.Qf2 Nb4 etc.) **2...exd5** and if **3.--** (queen any)

3...Nxd4

134

Newpos Position 11 Alekhine - Lasker



Zurich, 1934

Alekhine finished this famous attacking game against Lasker with **1.Nf5+ Kh8 2.Qxg6!** Black resigned, since if 2...hxg6 3.Rh3+ mates. (Source: Meet the Masters, p. 31)

135

Newpos Position 12 Spassky - Fischer



13th Match Game, 1972

1.e6 It is easy to see that the lever 1.e6 splits Black's position in half while shutting his queen out of the game. However, the Black king's bishop is suddenly very active. Still, 1.e6!?! is White's best chance to seek active counterplay for a pawn.

Smyslov gives the further continuation 1.e6 Nc4 2.Qe2 (2.Qb4 is another idea.) 2...Nxb2 3.Nf5 as unclear. (Source: *Best Games of the Young Grandmasters*, now *World Title Contenders and Their Styles*, Dover, analysis p. 55.)

136

Newpos Position 13 Bogoljubow - Alekhine



Hastings, 1922

The continuation here is from what has been deemed the "greatest game of all time." Alekhine continued **1..b4!! 2.Rxa8 bxc3 3.Rxe8 c2 4.Rxf8+ Kh7** and the new Black queen was decisive. (Source: Meet the Masters, p. 40)

137

Newpos Position 14 Kaplan - Kopec



Continental Open, 1975

Black has the "duo busting" lever **1...e5!** which virtually forces **2.fxe5** when after **2...Be6** he was better despite being two pawns down.

138

Newpos Position 15 Kopec - Wagner



Seven Bd. Blindfold, Univ. of Illinois, 1979

White was very pleased to find the combination: **1.Qxf5!! exf5 2.Rxd5 +-** leaving Black with five shattered pawns in the endgame (especially as this was one of seven games played by White in a blindfold exhibition). **1.Rf6** was also possible, since **1...Bxf6 2.Qxf6+ Kc7 3.Nxd5+** is very strong.

139

Newpos Position 16 Kopec - McNab



Edinburgh Congress, 1981

White has been down a queen for two bishops and two pawns for some moves, as he can remain with 1.Bxf5. However, **1.Bb6+**! virtually forces the interfering **1...Ke7** (cutting off the Black rook from h7). Other moves, such as 1.Bxf6+ are possible but less effective and forceful. Now there followed **2.h7 Qh8 3.Re1+**! causing the Black king to interfere with the rook's attack on the d5 pawn. **3...Kd6 4.Bxf5 Re7** Now White realized that after the exchange of rooks, the two bishops and two pawns would overpower the

Black king and queen. Thus: **5.Rxe7 Kxe7 6.Bc5+ Kf7 7.d6** and White soon won. (Source: Mastering Chess. p. 105)

140

Newpos Position 17 Fuderer - Tartakower



Bled, 1950

The ram lever action **1.d6** disrupts communications between Black's two flanks, stymying the development of his queen's bishop and queen's rook. (Source: Pawn Power in Chess, Diagram #149)

141

Newpos Position 18 Tartakower - Lasker



New York, 1924

White should play **1.Be3** (Or **1.b4** supporting the lever c5). White should not play 1.f4? leaving the e5 square as a beautiful "hole" for the Black pieces to occupy after 1...exf4 (Source: Pawn Power in Chess, Diagram #175)

142

Newpos Position 19 Alekhine - Wolfe



Bad Pistyan, 1922

This was a remarkable exception to the general rule where three White queen moves in the first nine moves were the best way to confound the development of Black's pieces. **1.Qe3 g6 2.Nf3 Qc7 3.Qc3 Rg8 4.Be3 b6 5.Nbd2 Bg7 6.Bd4 Bxd4 7.Qxd4 Bb5 8.Bxb5+ axb5 9.0-0 ±** White went on to win. (Source: Meet the Masters, p. 22)

143

Newpos Position 20 Lasker - Capablanca



St. Petersburg, 1914

1.e5! A classic "sweeper sealer twist." On 1...dxe5 or ...fxe5, the move Ne4 follows decisively. The game continuation was **1...dxe5 2.Ne4 Nd5 3.N6c5 Bc8 4.Nxd7 Bxd7 5.Rh7 Rf8 6.Ra1 Kd8 7.Ra8+ Bc8 8.Nc5** and Black resigned. (Source: Pawn Power in Chess, Diagram #140)

144

Newpos Position 21 Kopec - McKay

Scottish Ch Playoff, Game 1, 1981

1.h7! This is much better than the immediate Qd4. The game continuation was 1.Qd4 (threatening 2.Qxb6+, which did happen a few moves down the line when Black overlooked the idea), when Black played 1...Qxd6 (forced) 2.exd6 Bg6 with some defensive resources. **1...Rh8 2.Qd4 Qxd6 3.exd6 Rxh7 4.Qe4 +-** (Source: Mastering Chess, p. 42)



145

Newpos Position 22 Hort - Wade

Chapter 4

The King and Pawn Endings Test

Instructions for taking this test

You are allowed two minutes for each of the positions in this test. In each position, select the one move you think is best. In some positions, more than one move will be accepted as correct. Your score will be based on the total number correct. A full discussion of the test is at the end of the test.

***Answer Sheet for
King and Pawn Endings Test***

Position Number	Best Move	Side to Move
1.		Black
2.		White
3.		Black
4.		White
5.		White
6.		White
7.		White
8.		White
9.		Black
10.		White
11.		Black
12.		White
13.		White
14.		White
15.		White
16.		White
17.		White
18.		White
19.		White
20.		Black
21.		White
22.		White
23.		White
24.		White
25.		White
26.		Black

148



King and Pawn Endings Test Position 1
Black to move

149



King and Pawn Endings Test Position 2
White to move

150



King and Pawn Endings Test Position 3
Black to move

151



King and Pawn Endings Test Position 4
White to move

152



King and Pawn Endings Test Position 5
White to move

153



King and Pawn Endings Test Position 6
White to move

154



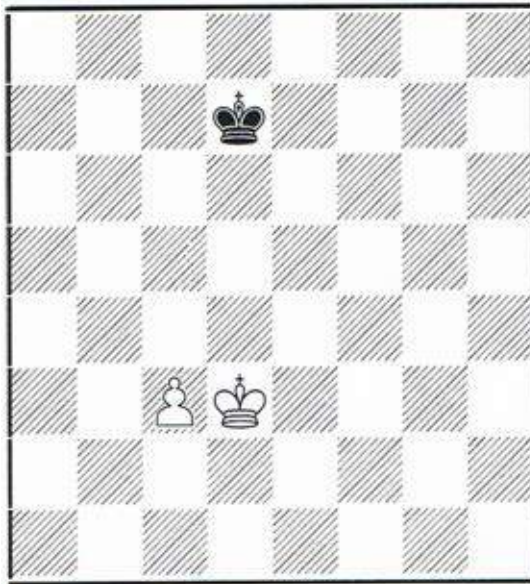
King and Pawn Endings Test Position 7
White to move

155



King and Pawn Endings Test Position 8
White to move

156



King and Pawn Endings Test Position 9
Black to move

157



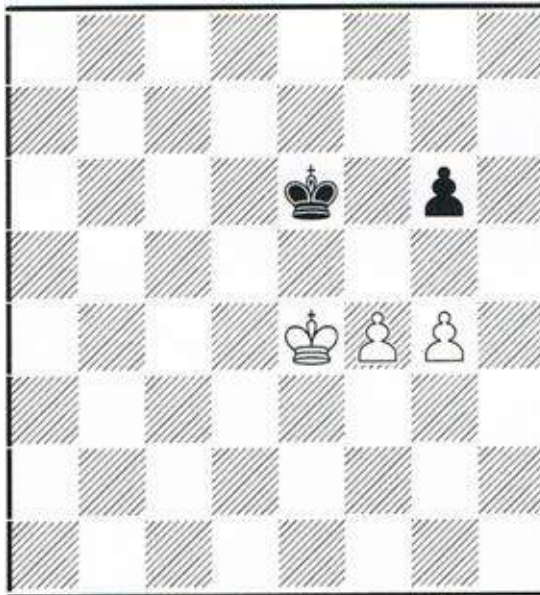
King and Pawn Endings Test Position 10
White to move

158



King and Pawn Endings Test Position 11
Black to move

159



King and Pawn Endings Test Position 12
White to move

160



King and Pawn Endings Test Position 13
White to move

161



King and Pawn Endings Test Position 14
White to move

162



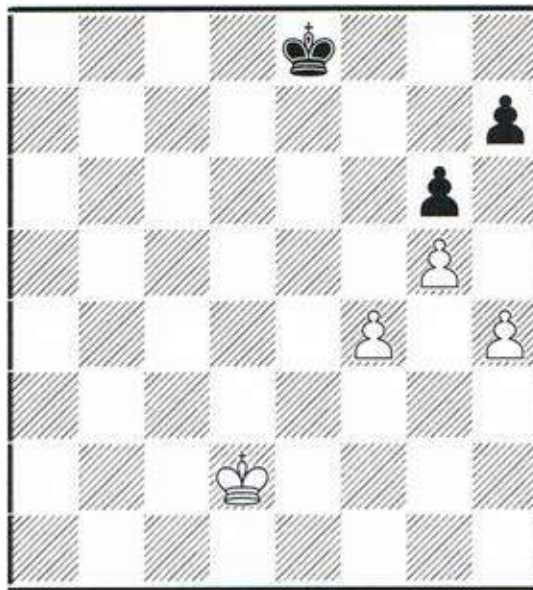
King and Pawn Endings Test Position 15
White to move

163



King and Pawn Endings Test Position 16
White to move

164



King and Pawn Endings Test Position 17
White to move

165



King and Pawn Endings Test Position 18
White to move

166



King and Pawn Endings Test Position 19
White to move

167



King and Pawn Endings Test Position 20
Black to move

168



King and Pawn Endings Test Position 21
White to move

169



King and Pawn Endings Test Position 22
White to move

170



King and Pawn Endings Test Position 23

White to move

171



King and Pawn Endings Test Position 24

White to move

172



King and Pawn Endings Test Position 25
White to move

173



King and Pawn Endings Test Position 26
Black to move

Solution Key for King and Pawn Endings Test

Position Number	Side to Move	Best Move(s)	Type/Comment
1.	B	1...h4	Lever Win
2.	W	1.h4	Prevent Lever
3.	B	1...Ke4	King Helps
4.	W	1.Kb7	Reti Position Offshoot
5.	W	1.Kb1	Retreat to Win
6.	W	1.a4	Accelerate Passed Pawn
7.	W	1.h5	Outflanking
8.	W	1.Nb6+	6th Rank Rule
9.	B	1...Kc7	Double Reserve Blockade
10.	W	1.c5	Lever
11.	B	1...Kd4	Outside Passed Pawn
12.	W	1.g5	Hidden Complexities
13.	W	1.e5+	Better King, Space Wins
14.	W	1.Ka4	Triangulation for Tempo
15.	W	1.h5	Neutralize Majority
16.	W	1.Kf1	Distant Opposition
17.	W	1.h5	Create Decisive Duo
18.	W	1.h4	Lever/Tempo
19.	W	1.Kd4	Centralized King
20.	B	1...g6	Relative Outsider
21.	W	1.h4 or 1.g3	Various Themes
22.	W	1.f3	Extra Pawn Tempi
23.	W	1.g3	Better King, Pawn Tempi
24.	W	1.g5	Final Breakthrough
25.	W	1.Kd4	Deferred Opposition
26.	B	1...h6	Preventing Access

*Complete Solutions to
King and Pawn Endings Test*

148

K + P Endings Position 1



Levers Win

Black employs double levers with doubled isolated pawns to win. **1...h4**
2.Kc3 hxg3 3.hxg3 h5 4.Kd3 h4 5.gxh4 Kxf4 -+ (D. Kopec composition)

149

K + P Endings Position 2



White Prevents Lever

1.h4 This is a relative of position #1 and forces Black to find a more complex winning method. (D. Kopec composition)

150

K + P Endings Position 3

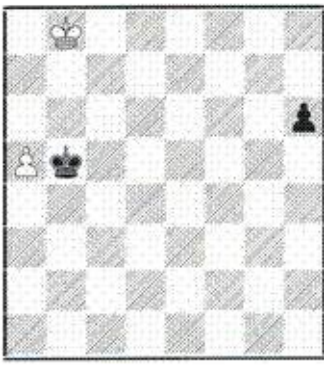


Black King Helps

From position #2 Black can essentially force this position and now employs a known technique to achieve promotion with connected passed pawns. **1...Ke4 2.Ka2 Kd3 3.f5 Kc2 4.f6 b3+ 5.Kxa3 b2** -+ (D. Kopec composition)

151

K + P Endings Position 4



Reti Variant

1.Kb7 Akin to the well known Reti composition (WK h8, WP c6; BK a6, BP h5. White to move), the idea of the long diagonal being the only way to approach two directions at once is key. **1...Kxa5 2.Kc6** = (Continuation from Mastering Chess, p. 87, #13)

152

K + P Endings Position 5



Retreat to Win

1.Kb1 Not **1.Kc3 a3 2.b4** (*2.bxa3 Ke7* =) **2...Ke6 3.Kb3 a2** (*3...Kd6 4.Kxa3 Kc6 5.Ka4 Kb6* =) **4.Kxa2 Kd6 5.Ka3 Kc6 6.Ka4 Kb6 = 1...a3 2.b3 Ke6 3.Ka2 Kd6 4.Kxa3 Kc6 5.Ka4** and White wins because he obtains opposition (diagonal) ahead of the pawn. (A composition by Dedrle, 1921. This example also appears in Mastering Chess: Kopec, Chandler, Morrison, Davies, and Mullen, #21, p.89)

153

K + P Endings Position 6



Racing Passed Pawns

1.a4 This is a continuation from Basic Chess Endings #137 (#73 in the older edition). White just played c4 and Black responded bxc3 e.p. White should not play **1.a3? Kxg4 2.b4 axb4 3.axb4 h5 4.b5 h4 5.b6 h3 6.b7 h2 7.b8Q h1Q=** or **1.Kd3? Kxg4 = 1...Kxg4 2.b4** Getting a speedy outside passed pawn is of essence. **2...axb4 3.Kd3** A little caution is needed. If instead **3.a5 b3 4.Kd3 b2 5.Kc2 Kf3 6.a6 Ke2 7.a7 b1Q+ 8.Kxb1 Kd2 = 3...h5 4.a5 h4 5.a6 h3 6.a7 h2 7.a8Q 1-0** (From a game Berger - Bauer, Corr. 1889-91)

154

K + P Endings Position 7

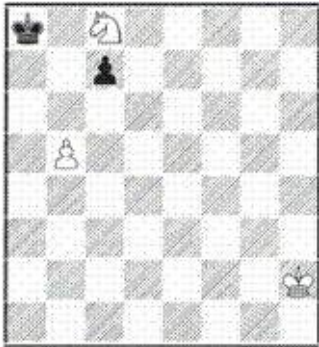


Space Wins

1.h5 White wins by outflanking. Not **1.Kh5?** **g6+** **2.Kg5 Kg7 = 1...Kh8**
2.Kg6 Kg8 3.h6 gxh6 4.Kxh6 Kf7 5.Kh7 Kf8 6.Kg6 Ke7 7.Kg7 Ke8
8.Kf6 Kd7 9.Kf7 and wins.

155

K + P Endings Position 8

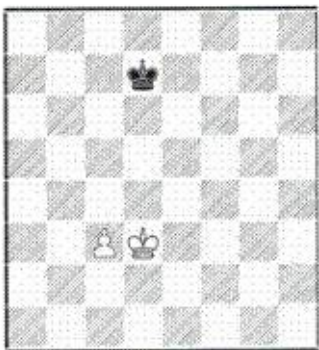


6th Rank Rule

A well-known study. **1.Nb6+** The only way to win, and it illustrates the 6th rank rule. **1...cxb6 1...Kb7 2.Nc4 +- 2.Kg3 Kb7 3.Kf4 Kc7 4.Ke5 Kd7**
5.Kd5 Kc7 6.Ke6 Kc8 7.Kd6 Kb7 8.Kd7 Kb8 9.Kc6 Kc8 10.Kxb6 In such positions if you win the pawn on the 6th rank ahead of your non-Rook pawn, you win; opposition does not matter. **10...Kb8 11.Ka6 Ka8 12.b6 Kb8**
13.b7 +-

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K + P Endings Position 9



Double-Reserve Blockade

1...Kc7 = The Black king waits to oppose the White king; White would like to play **Kc3** ahead of his pawn (distant opposition) but that square is already occupied.

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K + P Endings Position 10



Winning Lever; Extra Temp

1.c5 b5 If 1...bxc5 2.Ka6 a4 3.Kb5 a3 4.bxa3 Kd6 5.Kc4 when the outside passed a-pawn ultimately decides. **2.b3!** This is really the star winning move which illustrates how few tempi Black really has. **2...b4** Or 2...a4 3.b4 a3 4.Ka6+- **3.Ka6 Kc6 4.Kxa5 Kxc5 5.Ka4** +- (D. Kopec composition, 2006)

158

K + P Endings Position 11

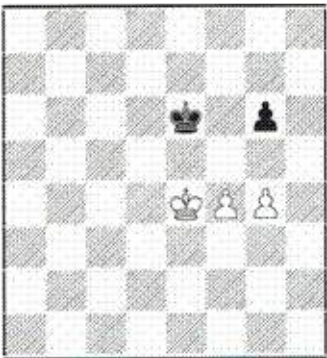


Outside Passed Pawns Win

This position is a derivative from an actual game in 2009, where the pawns were on h4 and h5, instead of h3 and h4 as here. In that game Black played ...b5?? and lost; with the continuation shown here it would have been a narrow draw for White. However, in the diagrammed position Black does indeed win as shown. **1...Kd4** Not 1...b5?? 2.cxb5 axb5 3.a5 +- **2.Kb4 Ke4 3.a5 bxa5+ 4.Kxa5 Kd4 5.Kb4 a5+ 6.Kb5 a4 7.c5 a3 8.c6 a2 9.c7 a1/Q 10.c8/Q Qb2+ 11.Ka6** Or 11.Ka4 Qa2+ 12.Kb4 Qd2+ 13.Kb5 Qxf4 14.Qc4+ Ke3 15.Qc1+ Kf3 16.Qd1+ Kg3 +- **11...Qa3+ 12.Kb7 Qxh3** +- (Analysis by IM D. Kopec)

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K + P Endings Position 12



Hidden Complexities

1.g5 Not 1.f5+? gxf5+ 2.gxf5+ Kf6= **1...Kd6** Or 1...Kf7 2.Kd5 Ke7 3.Ke5 Kf7 4.Kd6 Kf8 5.Ke6 Kg7 6.Ke7 Kg8 7.Kf6 Kh7 8.Kf7 Kh8 9.Kxg6 and wins. **2.f5 Ke7!** The best defense, forcing White to work for the win. If instead 2...gxf5+ 3.Kxf5 Ke7 4.Kg6 Kf8 5.Kh7 +- The following analysis is by GM Lubomir Ftacnik. **3.f6+** The only move. 3.fxg6? Kf8 4.Kf4 Kg7 5.Kf5 Kg8= **3...Ke6 4.Kd4 Kd6 5.Kc4 Ke6 6.Kc5 Kf7 7.Kd6 Kf8 8.f7!** Employing the "6th rank rule" as in position 8. **8...Kxf7** If 8...Kg7 9.Ke7 Kh7 10.Kf6! (Not 10.f8Q?? Stalemate!) 10...Kh8 11.f8Q+ **9.Kd7 Kf8 10.Ke6 Kg7 11.Ke7 Kg8 12.Kf6 Kh7 13.Kf7 Kh8 14.Kxg6 Kg8 15.Kh6**

Kh8 16.g6 Kg8 17.g7 +- (This fundamental position also appears as Novice Test #14)



K + P Endings Position 13

Better King

1.e5+ Better king, space, better pawns. White wins. **1...fxe5+ 1...Kc6 2.b3** (2.Ke4? Kc5=) **2...b4 3.exf6 exf6 4.Kc4 +- 2.Ke4 +-** (D. Kopec composition, 2006)

K + P Endings Position 14

Triangulation for Tempo



The right way is a triangulation maneuver which results in the gain of a crucial tempo: **62.Ka4** The immediate 62.Kc4 Ka5 63.Kd3 Ka4 and so on, would have the same result as the game continuation (see below).

The game continuation was 62.a4? Ka7 63.Kc4 but now after 63...Ka6 64.Kd3 Ka5 65.Ke4 Kxa4 66.Kf4 Kb4 67.Kg5 Kc4 68.Kf6 Kxd4 69.Kxf7 Kxe5 Black got the e5-pawn. There followed 70.Kxg6 Kd4 71.Kxh5 e5 72.Kg4 e4 73.h5 e3 74.h6 e2 75.h7 e1/Q 76.h8/Q+ Kxc5 with a queen ending which was soon drawn - not at all the outcome White wanted. (Tang, A - Feng, M, Barber K-12 Ch., Vancouver, WA 2012)

62...Kb7 63.Kb3 Ka6 64.Kb4! The point. The starting position has been reached again - but this time with Black to move instead of White. **64...Kb7** and only now **65.Kc4** Now after **65...Ka6 66.Kd3 Ka5** The attempt to get tricky with 66...Kb5 67.Ke4 Kc4 also fails: 68.a4 and now:

(a) 68...Kb4 69.Kf4 Kc4 70.a5 Kb5 71.Kg5 Kxa5 72.Kf6 Kb5 73.Kxf7 Kc4 74.Kxe6 and wins.

(b) A further attempt to confuse matters is 68...g5 but after 69.hxg5 Kb4 70.Kf4 Kxa4 (As in the main line 70...Kc4 is met by 71.a5 Kb5 and only now 72.g6 fxc6 73.Kg5 Kxa5 74.Kxg6 Kb4 75.Kf7 Kc4 76.Kxe6 +-) 71.g6 fxc6 72.d5! cxd5 (or 72...exd5 73.e6) 73.c6 +-) 69.Kf4 Kc4 70.a5 Kb5 71.Kg5 Kxa5 72.Kf6 Kb5 73.Kxf7 Kc4 74.Kxe6 and wins.

67.Ke4 Ka4 68.Kf4 Kxa3 69.Kg5 Kb4 70.Kf6 Kc4 71.Kxf7 Kxd4 72.Kxe6 when the e5-pawn wins easily. (NM Hal Terrie analysis)

K + P Endings Position 15

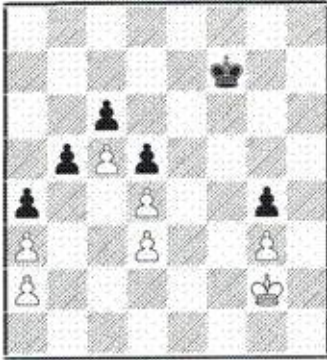


Controlling the Majority

1.h5 +- White queenside majority is mobile while Black's kingside is stifled and White has the better king. (D. Kopec composition, 2006)

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K + P Endings Position 16



Distant Opposition

Distant opposition assures White an entry into Black's position either via a5 or f4. **1.Kf1! Ke7 2.Ke1 Kf7 2...Ke6 3.Kd2** wins quickly **3.Kd1 Ke7 4.Kc2 Ke6 4...Kd7 5.Kc3 5.Kd2 Kf6**

If 5...Kd7 6.Kc3 Kc7 (6...Kd8 7.Kd2 *Distant opposition again!*) 7.Kd2 and wins: 7...Kb7 8.Ke3 Ka6 9.Kf4 Ka5 10.Ke5 (Not 10.Kxg4 b4 11.axb4+ Kxb4 12.Kf4 Ka3 13.g4 Kxa2 14.g5 a3 15.g6 Kb3 16.g7 a2 17.g8/Q a1/Q when Black is still in the fight.) 10...b4 11.axb4+ Kxb4 12.Kd6 Ka3

13.Kxc6 Kxa2 14.Kxd5 Kb3 15.c6 a3 16.c7 a2 17.c8/Q a1/Q 18.Qxg4 +-

6.Kc3! Ke7 7.Kb4 Kd7 8.Ka5 Kc7 9.Ka6 +- (Foltys, 600 Endings #28. This example is also analyzed in Basic Chess Endings #182 - or #99 in the old edition)

164

K + P Endings Position 17



Creating a Decisive Duo

1.h5 gxh5

If Black does not take on h5, White wins by taking on g6 at the right moment: 1...Kf7 2.Kd3 (*White must not play 2.hxg6+ at once, as after 2...hxg6 3.Kd3 Ke7 4.Kd4 Kd6= he does not have the opposition.*) 2...Ke7 3.Ke3 Kf7 (3...Ke6 4.hxg6 hxg6 5.Ke4 transposes to test position #12.) 4.hxg6+ and now:

(a) 4...hxg6 5.Kd4 Ke6 6.Ke4 once again transposes to #12.

(b) 4...Kxg6 5.Ke4 Kg7 (5...h6 6.gxh6 Kxh6 7.Kf5 +-) 6.f5 +-

2.f5 Ke7 2...Kf7 3.Ke3 is similar to the main line as White heads for h4.

3.Ke3 Kd6 4.Kf4 Kd5 5.Kg3 Ke5 6.f6 Ke6 7.Kh4 h6 8.Kxh5 hxg5 9.Kg6 Only this way. 9.Kxg5?? Kf7 = **9...g4 10.f7 g3 11.f8/Q** +- (Benko's Bafflers, May 2006)

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K + P Endings Position 18



Probing for Weaknesses

1.h4 +- Black is forced to play ...h5 to stop White from playing this move. Then White wins by advancing his Queenside pawns and gaining access to either d6 or c6. Better king, better pawns. (Continuation from a D. Kopec analysis.)

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K + P Endings Position 19



Powerful Centralization

1.Kd4 The White king intercepts any possible attempt by the Black king to catch the White pawn. The rest is art, exploiting the awkward position of the Black king. (Not 1.f4 Kb5 2.Kd4 Kc6 3.Ke5 Kd7 4.Kf6 b5) **1...b5** Or on 1...Kb5 2.Kd5 Ka6 3.f4 Kb7 4.f5 Kc7 5.Ke6 Kd8 6.Kf7 b5 7.f6 b4 8.Kg7 b3 9.f7 b2 10.f8/Q+ **2.f4 b4 3.f5 b3 4.Kc3 Ka3 5.f6 b2 6.f7 b1/Q 7.f8/Q+ Ka4 8.Qa8+** (A Grigoriev composition, 1928)

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K + P Endings Position 20



Relative Outsider

1...g6 The potential relative outsideness of Black's f-pawn wins the game -- by a tempo. A relative outside passed pawn may be an interior pawn which becomes an effective decoy for the defending king. **2.h4 h5** If 2...h6? 3.h5 =; or if 2...f5? 3.gxf5 gxf5 4.h5 and White gains an important tempo over the main line. **3.gxh5 gxh5 4.c5+ Kc6 5.Kc4 f5 6.Kd4 f4 7.Ke4 Kxc5 8.Kxf4 Kc4 9.Kg5 Kb3 10.Kxh5 Kxb2 11.Kg6 a3 12.h5 a2 13.h6 a1/Q 14.h7 Kc2--+** (D. Kopec composition, 2006.)

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K + P Endings Position 21



Various Themes

Here is an example from recent play by one of the authors (Kopec - Zhang, NY State Ch 2012). Admittedly, White was tired by this point and wanted a resolution of the game based on a K and P ending he was pretty certain White was winning. Watch out for Mr. Yuanchen Zhang from Canada -- he is only 11 and was well-underrated at 1926. **1.h4!?**

Easier and shorter was... **1.g3 Ke5 2.h4 gxh4 (2...g4+ 3.Ke3 f4+ 4.gxf4+ Kf5 5.d4 cxd4+ 6.cxd4 g3 7.Kf3 wins for White: 7...g2 8.Kxg2 Kxf4 9.d5 Ke5 10.Kf3 Kxd5 11.Kf4 Kc5 12.Kg5 Kb4 13.Kxh5 Kxb3 14.Kg6 +-) 3.gxh4 f4**

4.d4+ cxd4 5.cxd4+ Kxd4 6.Kxf4 wins by one move.

1...gxh4 2.Kf4 Ke6 3.Kg5 Ke5 If **3...h3 4.gxh3 Ke5 5.Kxh5 f4 (5...Kf4 6.Kg6 Ke3 7.Kxf5) 6.Kg4 +- 4.Kxh4 4.Kxh5 Kf4 5.Kxh4** also wins. **4...Kf4 5.Kxh5 Ke3 6.Kg5 Kxd3 7.Kxf5** However, it was only around this point that White realized that the only reason he wins is because on move 12 he queens with check! **7...Kxc3 8.g4 Kxb3 9.g5 c4 10.g6 c3 11.g7 c2 12.g8/Q+ Kb2 13.Qb8+ Ka1 14.Qe5+** And about now White started to realize that the RP's on the board do not make a big difference in terms of this being the classic Q vs. c (or f) - pawn on the 7th is a draw. **14...Kb1 15.Qb5+ Ka2 16.Qc4+ Kb2 17.Ke4!** Employing ideas that came from the study and development of other positions in this test! (But not **17.Ke5 c1Q 18.Qxc1+ Kxc1 19.Kd5 Kd2 20.Kc4 Ke3 21.Kb5 Kd4 22.Kxa5 Kc5** which is only a draw.) **17...c1/Q 18.Qxc1+ Kxc1 19.Kd3! 1-0** "Shouldering" the Black king away!

The conclusion would be **19.Kd3 Kb2 20.Kc4 Kc2 21.Kb5 Kc3 22.Kxa5 Kc4** when Black is too late: **23.Kb6** and White wins.

19.Kd4 only draws: **19...Kd2 20.Kc4 Ke3 21.Kb5 Kd4 22.Kxa5 Kc5** with a book draw. (IM D. Kopec analysis)

K + P Endings Position 22



Exploiting Extra Pawn Tempi

White wins not only because of his better king but also his many extra pawn tempi. **2.f3 Ke6 3.g4 fxe4** If **3...Kf6 4.gxf5 Kf7 5.Ke5 Ke7 6.f6+ gxf6+ 7.Kf5 Kf7 8.f4 +- 4.fxe4 Kf6 5.g5+! hxe5+ 5...Ke6 6.Kg4 +- 6.Kg4 Kf7 7.Kxe5 Kf8 8.Kg6 Kg8 9.c3!** The best tempo move, defending everything in anticipation of the Black king's later journey to f5 and e4. **9...Kf8 10.h6 gxe4 11.Kxe4 Kf7 12.Kh7** Taking the opposition and beginning a major East to West outflanking sequence. **12...Kf6 13.Kg8 Kf5** Or **13...Ke7 14.Kg7 Ke8 15.Kf6 Kd7 16.Kf7 Kd8 17.Ke6 Kc7 18.Ke7 Kc8 19.Kd6 Kb7 20.Kd7 Kb6 21.Kc8 a5 22.bxa5+ Kxa5 23.Kb7+- 14.Kf7 Ke4 15.Ke6 Kd3 16.Kd6 Kc2 17.Kxc6 Kxb2 18.Kxd5 Kxc3 19.Kc5 a5 20.bxa5 b4 21.a6 b3 22.a7 b2 23.a8/Q b1/Q 24.Qf3+ Kd2 25.Qf2+ Kc3 26.Qe3+ Kb2 27.Qd2+ Ka3 28.Qa5+ Kb2 29.Qb4+ +-** A fantastic variation with a little help from Fritz. (From a game Chen - Ballon, Queens CC, 2007)

K + P Endings Position 23



Composite Advantages

A remarkably poignant position considering the reduced material. **3.g3!** Not 3.g4? f5 draws. **3...Ke6** If 3...Ke8 4.g4 f5 5.h5 fxg4 6.h6 g3 7.h7 g2 8.h8Q+ **4.Kf8** Once again 4.g4 f5= **4...Kf6** If 4...f6 5.Kg7 Kf5 6.Kf7 g5 7.h5 **5.g4 Ke6** 5...g5 6.h5 **6.g5** Not 6.h5 gxh5 7.gxh5 Kf6 = **6...f5** or 6...f6 7.h5!! **7.h5 f4 8.hxg6** +- (Source: 600 Endings, #116; From a game Bogojubow - Selezniev, Maoravska Ostravo 1923.)

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K + P Endings Position 24



Final Breakthrough

6.g5 Continues #23. A key move from the previous example. On ...f5 or ...f6, h5! wins.

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K + P Endings Position 25



Deferred Opposition

1.Kd4 Not 1.Kd5? Kb4 2.Ke5 Kc3 3.Kf6 Kd4 4.Kxg6 Ke4= Surprisingly, in this case the opposition does not win. Instead the text move anticipates where the Black king may go, when the opposition will be effective. **1...Kc6** Alternatives:

(a) 1...g5 2.Ke4 Kc5 3.Kf5 Kd5 4.Kxg5 +-

(b) or 1...Kb4 2.f4 (with opposition on the rank) 2...Kb5 3.Ke5 Kc5 4.Kf6 Kd6 5.Kxg6 +-

2.Ke5 Kd7 3.Kf6 Kd6 4.Kxg6 Ke5 5.Kg5 Ke6 6.f4 Ke7 7.Kg6 +- (Dobias, 600 Endings #32)\

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K + P Endings Position 26



Preventing Access

The correct defense is **1...h6**

1...g6? Kasparov actually played this inferior move and lost. 2.b4 b5 (2...h6 3.b5 g5 4.Kg4 Kg6 5.hxg5 hxg5 6.a3 Kh6 7.exd5 exd5 8.Kf5 +-) 3.Kf4 h6 (3...h5 4.g4 hxg4 5.Kxg4 +-) 4.Kg4 Black is in zugzwang and resigned, e.g. 4...Kf7 5.h5! gxh5+ (If 5...g5 6.exd5 exd5 7.Kf5 +- or 5...Kf6 6.hxg6 Kxg6 7.Kf4 Kf6 8.g4 a6 9.a3 Kg6 10.Ke5 Kg5 11.Kxe6 Kxg4 12.exd5 +-) 6.Kxh5 Kg7 7.g4 etc. You can see that in the analysis here and from what follows, in this position White wins by either outflanking or by gaining access to the

f5 square.

2.Kf4

(a) If Instead 2.h5 Kg5 3.g4 g6 4.hxg6 Kxg6 5.Kg2 Kg7 6.Kg3 Kf7 (Not 6...Kg6 7.Kh4!) 7.Kf4 (Or on 7.Kh4 Kg6 =) 7...Kf6 =

(b) 2.Kg4 g6 = (Inferior is 2...Kg6 3.Kf4 Kf6 4.h5 +-) 3.Kf4 (3.b4 b5 4.a3 a6; 3.Kf3 g5!) 3...g5+ 4.hxg5 hxg5+ 5.Kg4 Kg6 when White is not making any progress.

2...g5+ 3.Kg4 Kg6 4.hxg5 Or 4.h5+ Kf6 **4...hxg5** = (Analysis from the game Kasparov - Topalov, Linares 2005. This was Kasparov's last official tournament game before his retirement.)

Chapter 5

The Rook and Pawn Endings Test

Discussion: The Rook and Pawn Endings Test

This chapter introduces a new way to look at all multi-pawn rook endings. We estimate that rook and pawn endings may occur as frequently as in one out of six games. That is, if one of three games amongst equal strength players results in an endgame, and if half of all endings are rook and pawn endings (as generally accepted) then $1/3$ times $1/2$ would yield $1/6$. Voila—one in six games may end with rook and pawn endings. People have tried to study and teach the correct play of rook and pawn endings from many perspectives. You hear about active rooks, rooks behind passed pawns, active kings, passed pawns, good pawn structures, bad pawn structures, outside passed pawns, pawn majorities, etc., but what does it all mean? Our observation has been that most writers and students are too interested in finding and defining individual “best moves” as opposed to defining and understanding the pervasive or dominant themes in any position. That is our purpose here—to present and identify the three major pervasive concepts which hierarchically define the status and correct play of all general rook and multi-pawn endings.

Really, how can you consider any move to be the best in a chess position before you can demonstrate that you understand it? Any chess position should first be understood statically—that is, what are the current features of the position? Namely, the material, the king safety, the piece activity, the identifiable strengths and weaknesses, such as powerful or weak pawn structures and piece configurations, etc. Then we can consider strong moves and groups of moves (combinations) which may force a transformation to a stronger (better) position. In other words, a position can first be viewed from a strategical (long term) perspective, and then from a tactical (short term) perspective. The “bridge” between tactical and strategical considerations may be defined as a “combination”. Combinations in chess can be deemed to fall into four categories, including combinations which: (1) force mate, (2) gain material, (3) force a draw, and (4) improve one’s position.

In this chapter we are concerned with rook and multi-pawn endings where there is a definite advantage for one side, but the advantage will not be in terms of material. It will be present in terms of only one of three possible factors: (1) better rook, (2) better pawns, or (3) better king. The correct play of any ending can be viewed as a combination which typically transforms one identifiable advantage to two advantages (better rook and better king; or better rook and better pawn structure; or better king and better pawn structure) or possibly all three identifiable advantages.

Here is a categorization for rook endings, developed by Danny Kopec. The type of advantage indicates which piece(s) plays the most significant role in providing a side with an advantage.

Category	Type of Advantage
0	None
1	Rook, Pawn, King
2	Rook, Pawn
3	Pawn, King
4	Rook, King
5	Rook
6	Pawn

For purposes of discussion here, all positions have material equality. At this time our database of rook and pawn endings has 45 positions (from which 35 have been selected for this test) illustrating this approach. Many positions can be tested as both White to move and Black to move. Here is an example of how one advantage can lead to two advantages and then to three advantages: a better rook ties up the opposing rook (Category 5). Then the king comes in for help (Category 4); finally pawns are advanced to create a passed pawn or material is won (Category 1). Another example is: a passed pawn advantage (for example, Category 6). The rook moves behind the passed pawn and the weaker side's rook is forced into a defensive position in front of the pawn (Category 2); the White king comes in for decisive help. Thereby we have advantages of better king and rook and pawn (Category 1).

Whatever the category a position is in, the goal is to achieve Category 1. This may be viewed as a form of "window dressing" but such a demonstration is usually sufficient to get the strongest players to resign, i.e. zugzwang (usually resulting in imminent loss of material or checkmate) with no counterplay. Against weaker players it is a sure recipe for making progress (bridging) from one won position to another which is easier to handle. One of the underlying principles of this approach is that you never trade your advantage of an active rook for a new advantage, unless you can get two pawns ahead and/or can calculate a forced win. The point is that you don't want too many pawns to get traded via your opponent's active rook whereby both sides get passed pawns and the game becomes somewhat of a raffle. If it does deteriorate into a race of passed pawns, then make sure that it is a no contest race. For example, if you have the better rook, (that is your opponent's rook is passive) you don't want to let your opponent also get an active rook after you win a pawn. In other words, an active rook is worth more than a pawn. However, if you can win two pawns which can quickly become passed, or if you can calculate (or see) an easy "no contest race" then you might enter such a transaction.

The real idea behind this approach is to build upon existing advantages leading to the constriction of your opponent's play and options. Better rook, better pawns, better king = resigns.

Instructions for Taking This Test

You are allowed two minutes for each of the following positions. In each case determine the category (of the eight categories presented on the previous pages) of the position for the side to move and the best move. You should only select one move which you believe to be the correct or best move in the position. The correct category is worth one point and the correct move choice is worth two points. Therefore the maximum score on this test is 105 points (35 for the 35 positions and their categories, 70 for the 35 possible correct move choices). You will also receive a level of difficulty score, by summing the difficulty numbers on the solution sheet, on positions where you have selected the correct move. See the discussion of the BK Test for more on the interpretation of difficulty level scores.

Answer Sheet for Rook and Pawn Endings Test

Reprise of the categories and the corresponding type of advantages: 0 = none; 1 = rook, pawn, king; 2 = rook, pawn; 3 = pawn, king; 4 = rook, king; 5 = rook; 6 = pawn; 7 = king.

Position Number	Category	Best Move	Side to Move
1.			White
2.			White
3.			White
4.			Black
5.			White
6.			Black
7.			Black
8.			White
9.			White
10.			Black
11.			White
12.			White
13.			Black
14.			Black
15.			White
16.			White
17.			White
18.			White
19.			White
20.			White
21.			White
22.			Black
23.			White
24.			Black
25.			Black
26.			Black
27.			White
28.			White
29.			White
30.			White
31.			White
32.			White
33.			White
34.			White
35.			White

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Rook and Pawn Test Position 1
White to move

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Rook and Pawn Test Position 2
White to move

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Rook and Pawn Test Position 3
White to move

177



Rook and Pawn Test Position 4
Black to move

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Rook and Pawn Test Position 5
White to move

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Rook and Pawn Test Position 6
Black to move

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Rook and Pawn Test Position 7
Black to move

181



Rook and Pawn Test Position 8
White to move

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Rook and Pawn Test Position 9
White to move

183



Rook and Pawn Test Position 10
Black to move

184



Rook and Pawn Test Position 11

White to move

185



Rook and Pawn Test Position 12

White to move

186



Rook and Pawn Test Position 13
Black to move

187



Rook and Pawn Test Position 14
Black to move

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Rook and Pawn Test Position 15
White to move

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Rook and Pawn Test Position 16
White to move

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Rook and Pawn Test Position 17
White to move

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Rook and Pawn Test Position 18
White to move

192



Rook and Pawn Test Position 19
White to move

193



Rook and Pawn Test Position 20
White to move

194



Rook and Pawn Test Position 21
White to move

195



Rook and Pawn Test Position 22
Black to move

196



Rook and Pawn Test Position 23
White to move

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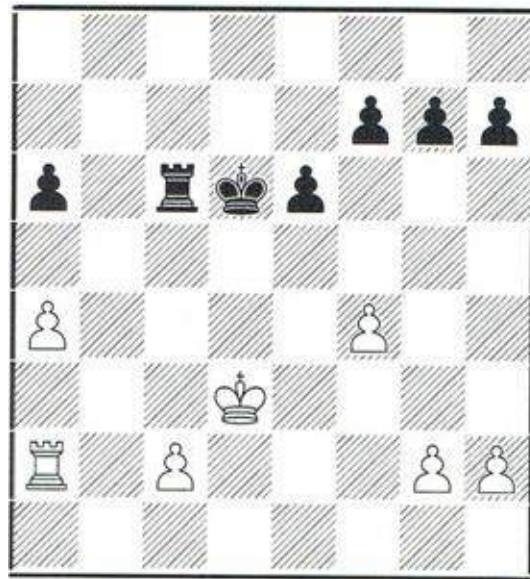
Rook and Pawn Test Position 24
Black to move

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Rook and Pawn Test Position 25
Black to move

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Rook and Pawn Test Position 26
Black to move

200



Rook and Pawn Test Position 27
White to move

201



Rook and Pawn Test Position 28
White to move

202



Rook and Pawn Test Position 29
White to move

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Rook and Pawn Test Position 30
White to move

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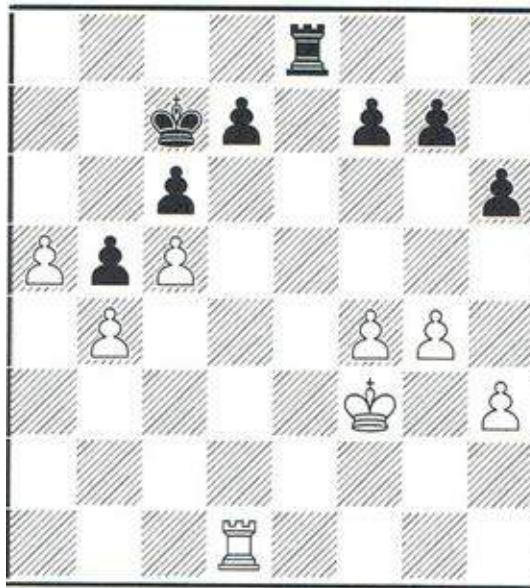
Rook and Pawn Test Position 31
White to move

205



Rook and Pawn Test Position 32
White to move

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Rook and Pawn Test Position 33
White to move

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Rook and Pawn Test Position 34
White to move

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Rook and Pawn Test
Position 35
White to move

Solution Key to Rook and Pawn Test

Position Number	Side to Move	Category	Level of Difficulty	Solution(s)
1	White	2	2	1.Rf4
2	White	5	1	1.Rd8+
3	White	6	2	1.Kf2
4	Black	0	2	1...g6
5	White	1	2	1.h4
6	Black	2	2	1...Ke6
7	Black	3	2	1...Ra6
8	White	4	3	1.Kg3
9.	White	5	2	1.Rd8+
10	Black	6	2	1...Re6
11	White	7	1	1.Re6
12	White	6	2	1.Rh3
13	Black	0	2	1...Re7
14	Black	0	3	1...Rc8
15	White	1	2	1.g5
16	White	2	2	1.Ke2
17	White	3	3	1.b5
18	White	4	1	1.Kb4
19	White	5	2	1.Kf1
20	White	2	2	1.Ra4
21	White	7	1	1.Rc3
22	Black	4	2	1...h4
23	White	2	1	!.Rc6
24	Black	0	2	1...e5
25	Black	2	2	1...Kd6
26	Black	1	2	1...Kc5
27	White	3	1	1.c5
28	White	4	3	1.Kb5
29	White	2	4	1.b5
30	White	3	3	1.Rf4
31	White	4	3	1.Rc8 or 1.a4
32	White	7	2	1.f5
33	White	6	4	1.f5
34	White	7	3	1.Re2
35	White	2	2	1.Kg4
			Max=75	

Complete Solutions to the Rook and Pawn Test

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R + P Position 1



Lasker - Rubinstein
St. Petersburg, 1914

Cat 2: better pawns and rook. A rook behind outside passed pawn wins. This is a famous example: **1.Rf4 b4** If 1...d4 2.Ke4 and if 2...Kc4 3.Ke5 wins. **2.b3 Rf7 3.f6 Kd6 4.Kd4** White has now achieved a Category 1 position: better rook, pawn and king. However, he still needs to find a way to translate this to victory. **4...Ke6 5.Rf2 Kd6** Not 5...Rxf6? 6.Rxf6+ Kxf6 7.Kxd5 with a won king and pawn ending. **6.Ra2! Rc7 7.Ra6+ Kd7 8.Rb6** White has

repositioned his rook and his king will now be able to contribute decisively. The strength and mutual respect of these two great players - World Champion Lasker and endgame artist Rubinstein was demonstrated by the fact that Rubinstein resigned here. It takes a fairly strong player to understand exactly why Black resigned. After **8...Rc3 9.Rxb4 Rf3** White must play **10.Ke5!** +- Probably the only move to win.

For example:

(a) If 10.Kxd5? Rf5+ 11.Ke4 Rxf6 12.Rc4 Rc6 13.Kd5 Rd6+ 14.Kc5 Kc7 is a draw.

(b) Or 10.Rb6? Kc7! 11.Ra6 Rxb3 12.Kxd5 Kd7 (only this move) is also a draw.

(c) Finally 10.f7? Kc6 draws easily (*but not 10...Rxf7?? 11.Rb7+ Ke6 12.Rxf7 Kxf7 13.Kxd5 and wins*).

(Source: Rook Endings #203.)

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R + P Position 2



Cat 5: Better rook. The better rook should win, e.g. **1.Rd8+** Black to move can neutralize the White rook with the maneuver 1.-- Kf8 2.-- Ke8 3.-- Rd7 **1...Kh7 2.Ke3** +- Ideally, White will want to keep the Black king confined on the kingside while he infiltrates on the queenside. This is not so easy to accomplish if Black plays a timely 2.-- f6 (his best defense). If Black tries the lever 2...g5 then after 3.fxg5 hxg5 the White king goes to g4 when the g5 pawn can be proven weak. (Source: Danny Kopec composition, 1992)

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R + P Position 3



Cat. 6: better pawns. White must keep Black rook out to avoid counterplay.
1.Kf2 This also activates the king and offers later opportunities to swap rooks. (Source: Danny Kopec composition, 1992)

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R + P Position 4



Cat 0: no advantage. With **1...g6** Black ensures that he can follow with **2.-- Kf8** and **3.-- Ke8** driving the White rook from the 7th rank. Then he can also challenge White's possession of the d-file. (Source: Pawn Power in Chess, Diagram 105)

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R + P Position 5



Levenfish - Lisitsyn
 Moscow, 1935

Cat 1: White has better rook, king and pawns. White won by: **1.h4 Rg7 2.h5 Rg4+** If **2...Rf7 3.Ke5** and **Rf6 3.Kxf5 Rxa4** If **3...Rxc3 4.Rc7+ Kg8 5.Rxa7 Rg5+ 6.Kf6 Rxc5 7.a5! Rxb5 8.Rg7+ Kf8 9.a6 +- with the idea of Rb7, a7 and Ra8+. 4.Rc7+ Kg8 5.Kg6 Rg4+ 6.Kxh6 Rxc3 7.Rxa7 Rb3 8.Rb7!** Although there have been many exchanges in the sequence which led to an active Black rook, White always maintained the better king coupled with

the more dangerous pawns. Note also that the White rook is more effective as it confines the Black king to the back rank. **8...Rxb5 9.Kg6 Kf8 10.h6 Re5** or **10...Rb1 11.Rb8+ Ke7 12.h7 +- 11.Rb8+ 1-0.** As **12.h7** will be next.

(Source: Rook Endings, #274)

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R + P Position 6



Marshall - Chigorin
Barmen, 1905

Cat. 2: better rook and pawns. Black sets out to prove that White's d-pawn is not passed and strong but isolated and weak. Black first improves his King with **1...Ke6** Wrong is **1...Rc3+ 2.Ke4 Rxa3 3.Kd5** and "White's weak d-pawn becomes strong" (Smyslov and Levenfish). The game continuation was **2.Rb3** Another try is **2.Ke4 f5+ 3.Kd3** when the most precise is **3...Ra4! 4.Rb3 Kd5** and wins. **2...Kd5 3.Rd3 f5 4.h3 h5 5.Ke2 Rxd4** and Black went on to win. (Source: Rook Endings, #266)

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R + P Position7
Pillsbury - Janowski
Budapest, 1896

Cat 3: better king and pawns. **1...Ra6!** Black activates his rook and it is soon time for White to resign. If **1...Rc6 2.Ke2 c3 3.Kd1** etc. **2.Rxf5 Rxa3+ 3.Ke2 Ra2+ 4.Kd1 Rxb2 5.Rf7!** This looks like a better try than the game continuation.



(The game continuation was **5.Ra5 Kd3 6.Rd5+ Kc3 7.Ra5 Rd2+ 8.Kc1 Rd7 9.Ra3+ Kb4 10.Rf3 c3 11.f5 Kb3 12.f6 Rf7 13.g4 h6 14.Rf5 a6 15.Rf1 a5 16.Rf5 a4** and Black was winning, though he later went wrong and allowed a draw.) **5...a5 6.Ra7 Kd3!** (as in the game). If instead **6...Kc3 7.Rxa5 Rh1+ 8.Ke2 Kc2 9.f5 c3 10.f6 7.Rd7+** King moves are worse. **7...Kc3 [SEE ANALYSIS DIAGRAM]**

8.Ke1 (with the idea of f5). This seems to be the toughest defense , at least from the perspective of what is the most difficult for a human to calculate.

After **8.f5** Black has a slightly easier time of it: **Rf2 9.g4 a4 (9...h5 10.gxh5 Rxf5 11.h6 Rh5 12.h7 a4 also leads to a win.) 10.Ra7 Rg2 11.Ke1 (11.Rxa4 Kd3 12.Ke1 c3 -+)** **11...Rxb4 12.Rxa4 Rf4** is a winning position for Black, though there are still some complications.

This a good moment for a comment on the pluses and minuses of computer analysis. The computer prefers **8.Ra7 a4 9.f5 Rf2 10.g4** transposing into the other variation with **8.f5**. It likes this because the evaluations stay better for White for a longer time on the path to a Black win. We prefer the main line here (with **8.Ke1**) for White because, even though the evaluations jump up for Black sooner, we think the moves required may be more difficult for a human to find. That's an important point for a defender to consider.

8...a4 9.Ra7 Forced, as f5 is too slow. 9...Kb3 10.Rb7+ Kc2 11.f5 a3 12.Ra7 Kb2 13.f6 Rh6 14.f7 Rf6 15.Kd1 a2 16.Rb7+ Kc3 17.Ra7 Rf1+ 18.Ke2 Rxf7 19.Rxa2 Kb3 is winning for Black. We would like to acknowledge Jack Edelson for assistance in analyzing this position. (Source: Rook Endings, #270)

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R + P Position 8



Capablanca - Tartakower
New York, 1924

Cat 4: better rook and king. White creates a much superior king with **1.Kg3!** Black's rook is active too but White's rook on the 7th also creates mating threats with the White king. **1...Rxc3+ 2.Kh4 Rf3 3.g6! Rxf4+ 4.Kg5 Re4 5.Kf6!** +- and White regains his sacrificed pawns through his active rook and continuous mate threats. For more analysis, see the solution to Camp Test #11. (Source: Rook Endings, #273)

182

R + P Position 9



Cat. 5: Better rook. After **1.Rd8+** (Black to move can pretty much secure a draw with 1.-- e5! followed by 2.-- Kf8 3.-- Ke7 and ...Rd7.) **1...Kh7 2.f4** White has the better chances due to better rook, better pawns (more space) and chances for the better king position. (Source: Danny Kopec composition, 1992)

183

R + P Position 10



Schlechter - Rubinstein

San Sebastian, 1912

Cat 6: better pawns. White has three islands and Black has two. The superior pawn structure is turned into a superior rook (White's rook must defend the weak pawns). **1...Re6** Tie the White rook to the weak pawns. Black can follow with **2.-- Re4** and **3.-- Rh4** then activate the king and advance his pawns. Attacking a weak pawn with your rook is a sure way to achieve the better rook - and that is always an important step in the winning process. (Source: Rook Endings, #267)

184

R + P Position 11



Cat. 7: better king. Domination and a target. **1.Re6** wins quickly. Now if **1...Rd3 2.Re7+ Rd7 3.Rxd7+ Kxd7 4.Kb6 Kd6 5.Kxa5 Kc5 6.Ka6** wins. (Source: Danny Kopec composition, 1992)

185

R + P Position 12



Cat. 6: better pawns. White has several threats to win using his protected passed d-pawn. The main threat is **1.Rh3** or **1.Rg3 g6 2.Rh3**; The idea **1.a4 -- 2.b5** and **3.Rb3** is also a threat. (Source: Danny Kopec Composition, 1992)

186

R + P Position 13



Cat 0: no advantage. **1...Re7** = is Black's only move because it is necessary to prevent White's rook from getting to the 7th rank. (Source: Danny Kopec composition, 1995)

187

R + P Position 14



Cat 0: no advantage. **1...Rc8** This is the only reasonable way for Black to get at least equality. If instead **1...g3 2.Rxb6 Rc8 3.Rc6 Rb8 4.Rc3 +-**

A possible continuation would be: **2.Rxb6 Rc1+ 3.Kh2 Rc2 4.Rxd6 Kg7!** This move prevents Rh6 which would help to eliminate Black's main trump - the threats of advancing his g and h pawns. In this position, despite being 2 pawns down, Black's active rook on the 7th and advanced kingside pawns seem to offer sufficient counterplay to draw. **5.Rc6** Here is a sample variation which illustrates how tricky the position for both sides: **5...Rxf2 6.Kg1** (Black threatened ...h3) **6...Rb2 7.Rc4 g3 8.Kf1 Rf2+ 9.Ke1 Rxc2**

10.Rxh4 f5 11.Rh3 White must deal with the dangerous g-pawn before doing anything else. If **11.d6? Rg1+ 12.Ke2 g2 13.Kf2 Rh1 +- 11...Kf6** In view of the fact that on **11...Rg1+ 12.Ke2 g2 13.Kf2 Rh1** White has **14.Rg3+ 12.Kf1 Rf2+ 13.Kg1 Rb2 14.Rxc3 Rxb3 15.Kf2 Ke5** = (Source: Danny Kopec composition, 1995)

188

R + P Position 15



Bernstein - Forgacz
Coburg, 1904

Cat. 1: better rook, pawns, king. White's pawns are better because of space. White uses the "widening bridge" (a term from Rook Endings) to win. (See also position #7 in the K + P Test.) That is: **1.g5 hxg5 2.Kxg5 Rd7 3.h6 gxh6+ 4.Rxh6 Kg7 5.Rg6+ Kf7 6.Kf5 Ra7**

If **6...Rd8 7.Rh6 Kg7 8.Rf6! ± Rd7 9.Ke6** and now:

(a) **9...Rd8 10.Rf7+ Kg6 11.Rd7 +-**

(b) **9...Ra7 10.Rf4 Ra6 11.Rf7+ Kg6 12.Rc7 Ra4 (12...Rb6 13.Rc6 Rb4**

14.Kxd6 Rxc4 15.Rxc5 +-) 13.Kxd6 Rxc4 14.Rxc5 +-

7.Rxd6 Unfortunately the main variation given in our previous edition **7.Rh6** only draws, e.g. **7.Rh6 Kg7 8.Rxd6 Ra4 9.Ke6 Rxc4 10.Rc6 Re4+ 11.Kd7 c4 12.d6 Kf6 13.Kc7 Rd4 14.d7+ Ke7 = 7...Ra4 8.Rd7+ Ke8 9.Ke6 Rxc4 10.Re7+ Kd8 11.Ra7 Re4+ 12.Kd6 Kc8 13.Kc6 Kd8 14.Ra8+ Ke7 15.d6+ Kf7 16.d7 +-** (Source: Rook Endings, #278)

R + P Position 16



Flohr - Vidmar
Nottingham, 1936

Cat 2: better rook and pawns. A very famous position whereby White wins due to "island theory". White has two pawn islands vs. Black's three and White can exploit this with his active rook. The Black rook is kept tied up defending pawns. An important motif is the creation of a new front of attack after the White king is centralized. The game sequence is extremely instructive. **1.Ke2 Ke7 2.Kd3 Kd6 3.Ra5 Ra8 4.Kd4 f5 5.b4 Rb8?**

Better is 5...Kc7 in order to transfer the king to b6 and free the rook. 6.Kc5 (If 6.e4 dxe4 7.fxe4 fxe4 8.Kxe4 Kb6 when Black is a move ahead of what he could have had in the game.) 6...Kb7 (6...Rb8 7.a4!) 7.Kd6 Re8 8.Ra3 d4! 9.exd4 Re2 10.Rc3 Rxc2 11.Rxc6 Rxc2 12.a4 g5! with equality.

6.a3 Ra8 7.e4! dxe4 8.fxe4 fxe4 9.Kxe4 Ra7? Black continues with passive defense when 9...Kc7 offered better chances to liberate his rook and seek active counterplay: 9...Kc7 10.Re5! Kb6 11.Re7 a5! With counterplay. 12.Rxc7 axb4 13.axb4 Ra4 14.Rg7 Rxb4+ 15.Kf3 etc., as given by Smyslov and Levenfish. **10.Kf4 h6** To prevent king entry but White now won by Kg4 and h4–h5, exploiting the weakened Kingside. **11.h4 Ke6 12.Kg4 Ra8 13.h5 g5** Or 13...gxh5+ 14.Kxh5 Rg8 15.g4! Kd6 16.Rxa6+– **14.g3 Ra7 15.Kf3 Ra8 16.Ke4 Ra7 17.Re5+! Kd6 18.Re8 c5 19.Rd8+!** Such in-between checks can often be very disrupting to the defense. **19...Kc6 20.Rc8+ Kb6 21.Rxc5 Rh7 22.Re5 Kc6 23.Re6+ Kb5 24.Kf5 Rf7+ 25.Rf6 1–0** (Source: Rook Endings, #286)

R + P Position 17



Cat 3: better pawns and king. White has a dominant king and more space due to the mobile pawns on the queenside. Black's protected passed e-pawn is blockaded. **1.b5!** -- with the threat of **2.Ra3+–** If 1...c6 then 2.Ke5 is strong. (Source: Danny Kopec composition, 1992)

R + P Position 18



Cat 4: Better rook and king. White wins with **1.Kb4** and enters via a5, e.g. **1...c5+ 2.Ka5 Rc6 3.e4** Black will eventually run out of moves. A plan for White to try to force a breakthrough is 4.a3 followed by 5.Rc2 and 6.c4 while Black's rook is still tied up. If Black tries **3...c4** (to prevent White from playing this move) then **4.b4 f6 5.a4 bxa4 6.Kxa4 g5 7.f3 Ke8** Giving up the d5 square is always fatal for Black: 7...e5 8.g4 Ke6 9.Ka5 Ke7 10.Rd5 Ke6 11.Rc5 Rd6 (Or 11...Rxc5+ 12.bxc5 Kd7 13.Kb6 a5 14.c6+ Kc8 15.Kxa5 +-) 12.Rxc4 with an easy win. **8.Ka5 Ke7 9.g3 Ke8 10.f4 gxf4 11.gxf4 Ke7** Once again 11...e5 12.fxe5 fxe5 13.Rd5+- **12.e5 fxe5 13.fxe5**

h5 14.Rd6! Rxd6 14...Rc8 15.Rxa6 +- 15.exd6+ Kxd6 16.Kxa6 Kc7 16...e5 17.b5 e4 (17...Kc7 18.Ka7) 18.b6 e3 19.b7 Kc7 20.Ka7 +- 17.Kb5 +- (Source: Danny Kopec composition, 1992)

192

R + P Position 19



Cat 5: better rook. This is a classic example. White's Rook controls the only open file and occupies the 7th rank. One key rule is that you should NEVER exchange a category 5 advantage for other advantages unless you are able to calculate a direct win. The point is, once an opponent's rook is active the game can become as unclear as a roulette wheel. Let's explore a model continuation of how White can win from this position. **1.Kf1 Kf8 2.Ke2 Ke8 3.Kd3** First White centralizes his king. **3...a6** Black tries to get some pawns off the 7th to free his rook. **4.f3** White has achieved Category 4 (better rook and king). Should he strive for a completely dominant king,

aiming for b6 or d6, or play for the better pawn structure as well, with the possible gain of material? That is a matter of choice. The main thing is never to allow the Black rook to get active for a mere pawn. If White puts his king on b4 Black can keep him out with ...b6, therefore the text continuation. **4...b6 5.e4 h6** If Black takes on e4 White will be able create a passed d-pawn, heading for Category 1 (better rook, pawns and king). **6.Ke3** Threatening to take on d5, followed by Kf4-e5. **6...g5 7.exd5 exd5 8.Rc6 h5 9.Rd6 Rc8 10.Kd2 Rc4 11.Rxd5 f6 12.b3 Rc6 13.h4!** A little dose of poison. Black has somewhat activated his rook but he'll soon be two pawns down. This has proven to be an excellent position for group study and analysis, individual study and training play vs. instructors. (Source: Danny Kopec composition, 1992)

193

R + P Position 20



Euwe - Stahlberg

Zurich, 1953

Cat. 2: better pawns. White wins with **1.Ra4** +-. Rooks belong behind passed pawns. The White outside passed a-pawn will decide, even in a king and pawn ending. Black to move draws with 1...Rc1+ 2.Kg2 Ra1 etc. (Source: Rook Endings, #276)

194

R + P Position 21



Cat. 7: better king. **1.Rc3** After the likely trade of rooks White's better king ensures victory in the king and pawn ending. (Source: Danny Kopec composition, 1992)

195

R + P Position 22



Finegold,J - Kopec

World Open, 1975

Cat 4: better rook and king. **37...h4** In addition to having the better rook and king, Black now tries this lever to get better pawns. After **38.Rg2 h3 39.Rd2** If 39.Rg1 Rf2 **39...Rf1** -+ with the idea of **40.-- Rg1** and **41.-- Rg2**

196

R + P Position 23



Cat. 2: better rook and pawns. White wins due to the much better rook and superior pawn structure. White should not chase a pawn while allowing the Black rook to get active. Instead, after **1.Rc6** White should centralize his king. (Source: Danny Kopec composition, 1992)

197

R + P Position 24



Category 0: no advantage. **1...e5** = Now Black threatens **2...Kf8** and **3.-- Ke7** driving out White's rook and reaching complete equality. If **2.Rd8+ Kh7** and the Black king can still eventually centralize.

(Source: Danny Kopec composition, 1992)

198

R + P Position 25



Finegold,J - Kopec
World Open, 1975

Cat 2: better rook and pawns. **26...Kd6** with advantage to Black. The Black king tries to aid his rook, and become superior to his counterpart.

199



R + P Position 26

Finegold, J - Kopec

World Open, 1975

Cat 1: better rook, pawns and king. **27...Kc5** The Black king continues his mission to become superior to the White king. Black already has the better rook, and he wants to demonstrate that the White c-pawn is weak, rather than passed and strong. An important point is that **27...Kd5?** allows **28.Rb2** with counterplay. **28.Rb2 Rb6!**—+ and then if **29.Rxb6?** **Kxb6** reaches a king and pawn ending which is won for Black. (See K+P Test, #20) A

continuation might be **30.Kc4 Ka5 31.Kb3 f6 32.c4 Kb6 33.Kb4 a5+ 34.Kc3 Kc5** with ...e5 to follow. Black uses the relatively outside passed e-pawn to divert the White king and win material on the queenside.

200



R + P Position 27

Cat 3: better pawns and king. White's dominating king and more advanced pawns insure victory. The winning idea is **1.c5** and **2.d6** coupled with **3.Ra3** activating the rook. (Source: Danny Kopec composition, 1992)

201

R + P Position 28



Cat 4: better rook and king. White's rook and king are dramatically superior to Black's. This helps in the subsequent variations where transpositions to king and pawn endings occur. **1.Kb5** Noteworthy in this example is the importance of knowing the subtleties of king and pawn endings as an essential ingredient in the proper conclusion of rook and pawn endings. (For a pawn ending similar to the one that might arise here, see K + P Test, position #10.) **1...Kf8 2.Ka6 Ke7 3.Kb7 Kd7 4.Rc3!** +- Threatening Rd3+.

Another way to win is **4.c4** This idea (of a lever) would also have won on White's 2nd move. **4...h4** A futile attempt to avoid lines where White locks the kingside pawns, leaving Black with no pawn tempi. (*The immediate 4...Rb8+ 5.Kxb8 Kxc6 would be similar after 6.h4 f6 7.f4 Kd6 8.Kb7 f5 9.g3 Kd7 10.c5 +-*) **5.f4 Rb8+ 6.Kxb8 Kxc6** and White has a winning king and pawn ending as follows: **7.Kc8 Kd6 (7...Kc5 8.Kxc7 Kb4 9.Kxb6 Kxb3 10.c5 +-)** **8.Kb7 f6 9.g3 hxg3 10.hxg3 f5 11.Kc8 Kc6 12.Kb8 Kd6 (12...Kd7 13.c5! would be similar to the main line.) 13.Kb7 Kd7 14.c5! bxc5 15.Ka6 Kc6 (15...c4 16.bxc4 Kc6 17.Kxa5 is also similar to the main line.) 16.Kxa5 c4 17.bxc4 Kc5 18.Ka6 Kxc4** Now we have a typical outside passed pawn situation, similar to a number of positions in the K + P Test. The White king will get to the kingside first. **19.Kb7 Kb4 (19...c5 20.a5**

Yet another path to victory at move four would be 4.Rf6 Rf8 5.f4 Ke7 6.Rc6 (Source: Danny Kopec composition, 1995)

202

R + P Position 29



Cat 2: Better rook, pawns. Our understanding of this position has been changed considerably by computer analysis. In the previous edition (ten years ago), we gave this as a Cat. 1 position. As it turns out, White is better but not that much. Rather than eliminate the position in favor of one with a clear solution, we have decided to keep it and show you the evolution of our discovery of the best tries for White and the points where the computer made decisive contributions. Let's begin.

Black has backward pawns on e7 and g7 but while the White rook is active and the Black rook is passive, the White king is only optically better. Without potential entry squares, the extra space alone does not make the White king better. Black should not be allowed his rook on an open file. 1.Rc1 seems like the logical best move for White but Black has 1...h5!, creating a open file for his rook (h-file) and counterplay. A continuation might be 1...h5 2.Ke4 hxg4 3.hxg4 Rh8 and Black has strong counterplay. For this reason another approach is needed. 1.Ke4 is the next logical try, with the idea of meeting 1...h5 with 2.g5. This approach just barely falls short, a fact not discovered by the authors (analyzing ten years ago without a computer) until deep into the analysis of the position. We then went back to the drawing board and finally discovered a completely new idea:

1.b5! This is clearly the best try. White tries to open addition lines of entry for his rook at a moment when the Black rook is cut off from the queenside. This is correct theoretically but also practically: opening additional lines forces the defender to calculate additional variations, increasing the chance of error.

As mentioned above, we originally thought 1.Ke4 was best. The idea is to meet ...h5 with g5. It is true that after 1...h5 2.g5 Kd7 3.Rc1 is very promising for White. Black cannot play ...Rc8 as he would lose the h5-pawn in the king and pawn ending. However, Black can play the simple 1...Kd7 and after 2.Rc1 Rc8 is OK because now, with no kingside pawn weaknesses, while the king and pawn ending is better for White it seems Black can barely hold. 3.Rxc8 Kxc8 We will not give all the variations here - they are very complex and would fill pages! The reader can work them out for himself as an exercise but the computer confirms the conclusion we reached on our own - Black draws.

1...axb5 1...a5? 2.b6 And White will win all king and pawn endings. **2.axb5 Kd7** The simplest. Black prepares to activate his rook on either of two files.

We spent a long time analyzing the alternative 2...Kc7 We thought that it was inferior and lost to an elegant idea but the computer revealed a blind spot in our analysis.

(A) One try is 3.Re1 Re8 (3...Rf7? is inferior as it takes away all mobility from the Black rook.) 4.h4 Kd7 5.Re6 Ra8 6.Rg6 Rg8 7.b6 Ke8 8.g5 hxg5 9.hxg5 Kf7 10.Re6 Rc8 11.f6 (11.g6+ Ke8) 11...gxf6 12.gxf6 exf6 13.Rxd6 Ke7 14.Re6+ Kd7 15.Rxf6 Rc1 and the active rook ensures a draw: 16.Rf7+ Kd6

17.Rxb7 Rd1+ 18.Ke4 Re1+ and so on.

(B) We preferred (after 1.b5 axb5 2.axb5 Kc7) 3.Rc1+ and then

(B1) 3...Kb6 is possible but not the best defense. 4.Re1 Re8 5.Kc4 Rc8+ 6.Kb4 Now we analyzed:

(B1a) the defensive 6...Rc7? 7.Re6 Rd7 (7...Rc5 transposes) 8.Rg6 Rc7 9.Rxg7 +-

(B1b) the active 6...Rc5? 7.Rxe7 Rxd5 (or 7...Rxb5+ 8.Kc4 Rc5+ 9.Kd4+-) 8.Rxg7 +-

(B1c) But we failed to consider the flexible 6...Re8! (pointed out by the computer) 7.Re6 (7.Rc1 Rf8! once again threatening ...h5.) 7...Kc7 8.h4 Kd7 9.Ka5 Kc7 10.Rg6 Rg8 11.g5 hxg5 12.hxg5 b6+ 13.Kb4 (Of course not 13.Ka6?? Ra8#) 13...Kd7 14.f6 Ke8 Just in time! 15.fxe7 Kxe7 16.Kc4 Rc8+ 17.Kd4 Rg8 18.Ke4 Kd7 =

(B2) The simple 3...Kd7 is once again best 4.b6 Rc8 The king and pawn ending is still a draw. 5.Ra1 Ke8 when 6.Ra7 Rb8 just doesn't accomplish anything, as White is not able to make progress with just his king and pawns. White can try to change fronts with 7.h4 Kd7 8.g5 hxg5 9.hxg5 Ke8 10.Ra3 but Black immediately goes active again with 10...Rc8 and White cannot break through.

3.Ra1 h5 4.b6 hxg4 5.hxg4 Rh8 6.Ke4 to defend g4 but now **6...Rc8 7.Ra7 Rb8** White can try to play this like a K + P ending with a rook in reserve to help if needed. **8.g5** If 8.Kf4 Ke8 9.Kg3 (9.Kg5 Kf7) 9...Kf7 10.Kh4 Kf6 = **8...Ke8 9.Kf4 Kf7 10.Kg4 Ke8 11.Ra2** 11.Kh5 Kf7 **11...Rc8 12.f6** 12.Re2 (or 12.Rh2 Kf7 =) Rc5 13.f6 gxf6 14.gxf6 Kf7 15.fxe7 (15.Rxe7+ Kxf6 16.Rxb7 Rxd5 =) 15...Ke8 = **12...exf6 13.gxf6 Kf7** Activating the king. 13...gxf6 is possible too. 14.Kf5 Kd7 15.Rg2 Re8 16.Rg7+ 16...Re7 (Even 16...Kd8 would hold, though there are a few tricks.) 17.Kxf6 (If 17.Rxe7+ Kxe7 18.Kg6 f5! 19.Kxf5 Kf7 =) 17...Rxg7 18.Kxg7 Ke7 = **14.fxg7 Kxg7 15.Re2** 15.Kf5 Re8 **15...Kf7 16.Re6 Rc5 17.Rxd6 Ke7 18.Re6+ Kd7** = as the White king is too far away.

(Source: Danny Kopec composition, 1992)

203

R + P Position 30



Category 3: better king and pawns. Black threatens to free himself with ...h5. Therefore to prevent this most active defense, White plays **1.Rf4** (to meet ...h5 with gxh5). Now the best defense is probably **1...Rg8** planning to activate his rook.

Another way to play it is 1...Rh7 2.h4 h5 (The passive defense 2...Rg7 might be a better try but then White can use his space advantage to prepare a pawn break on the Queenside (such as c5), opening a file when only he is in a position to occupy it.) 3.Ke3 etc., because White has better pawn structure and chances for an outside passed pawn.

Thus if **2.h4 Re8** when **3.Re4 Rxe4+** Or 3...Re5 = **4.Kxe4** is drawn because there is no forced entry for the White king. (Source: Danny Kopec composition, 1992)

204

R + P Position 31



Cat. 4: Better rook and king; White to move should win with **1.Rc8** Another way is 1.a4 bxa4 (1...Rb7 2.a5 Rb8 3.e4 and White retains a clear advantage, due to his superior Category 1 factors.) 2.Ra5 Kc6 (2...Ra7? 3.b5 Kc7 4.Kc5+-) 3.Rxa4 Kb5 4.Ra5+ Kb6 (4...Kxb4 5.Rxa6 Re7 6.Ke5+-) 5.Ke5+- **1...Ra7** Idea ...a5, activating the Rook. If 1...Rc7? 2.Rxc7 Kxc7 3.Kc5+- **2.Rd8+!** Drives back the King and spreads confusion in the ranks. **2...Ke7 3.Rb8** Now Black has three ways to go. **3...a5** The main line. Other possibilities are:

(a) 3...Kd6 4.Rb6+ Ke7 5.Ke5+-

(b) 3...Rc7 4.Rb6 Rc2 (or 4...Kf6 5.Rxa6 Rc2 6.Ra5 Rxc2 7.Rxb5 Rxh2 8.a4 h5 9.a5 Ra2 10.Rb8 when White will be able to stop Black's passed h-pawn while supporting his own pawns on the queenside.) 5.Ke5! Rxc2 6.Rxe6+ Kd7 7.Rxa6 Rxh2 8.Kxd5+-

4.Rxb5 axb4 5.axb4 Ra2 6.Ke5 Rxc2 7.Rb7+ Kd8 8.Kxe6 Rc2 9.Kd6+- White has reached a Category 1 position. (Source: Danny Kopec composition, 1992)

205

R + P Position 32



Cat 7: Better king; White actually has better pawns and Better rook too. His pawns and rook are better due to space and mobility. However better king is the dominating factor. **1.f5+-** Black cannot avoid an opening of the position favorable to White. (Source: Danny Kopec composition, 1992)

206

R + P Position 33



Cat. 6: White's only advantage is the better pawn structure: outside passed pawn and backward Black d-pawn.

1.f5! Note that by first increasing his space advantage on the Kingside, White enhances his chances of winning on either wing. White threatens 2.Rd4 followed by 3.Re4 when in any race he has an extra tempo on the Kingside. It also "puts the question" to the Black rook - he must decide which is better, to leave the back rank or to risk a possibly weakening pawn move.

(A) The immediate 1.Rd4 is less clear, as after 1...Re1 2.Re4 Rb1 Black has an extra tempo in the many complicated variations which follow.

(B) Somewhat surprisingly, despite his greatly superior queenside pawn structure, White cannot win

directly by 1.a6 Ra8 2.Ra1 = e.g. 2...d6 3.cxd6+ Kxd6 etc.

1...Re5

(A) 1...g6? 2.fxg6 fxg6 3.Rd6 Rg8 4.h4 Rg7 5.g5 followed by entry of the White king. +-

(B) 1...f6 Of course Black is reluctant to make an immediate rook move off the back rank, as the a-pawn might then be used as a dangerous diversion. However, it seems that the weakness at g6 is enough to give White a clear winning plan. 2.Rd4 Re1 3.Re4 Rb1 4.Kg3 planning to penetrate on g6 with the king. 4...Rc1 5.Kh4 Rc4 6.Re7 Rxb4 7.Kh5 Rb3 8.Kg6 Rxh3 9.Kxg7 Rg3 (9...Rc3 10.Kxf6 Rxc5 11.Kg7 b4 12.Kxh6 b3 13.Re1 +-) 10.Kxf6 Rxc4 11.a6 b4 (11...Ra4 12. Kg7 Rxa6 is too slow 13.f6 Ra1 14.f7 wins quickly.) 12.a7 Kb7 13.Rxd7+ Ka8 14.Ke5 b3 15.Rd2 Kxa7 16.f6 +-

(C) Black can attempt to save a tempo over the alternative ...Rb1 (in line B above) by playing 3...Rc1 at once but this only ends up transposing to the main line. 4.Kg3 Rc3+ (4...Rc4 at once just loses simply to 5.Rxc4 bxc4 6.Kf3) 5.Kh4 (5.Kg2 Rc2+ =) 5...Rc4 and now 6.Re7 is the same position as in line B above.



2.Rd4 White sticks to his original plan.

The alternative is 2.a6 trying to prove that the tempo loss of the forced rook retreat is important. It turns out that this is not the best way for White to proceed, as Black now gets enough play to hold the draw. 2...Re8 It's complicated but this is necessary. We won't give all the variations here.

[SEE ANALYSIS DIAGRAM]

Now there are several tries for White:

(A) 3.a7 Ra8 4.Ra1 d6 5.cxd6+ Kxd6 6.Ke4 Kc7 (6...c5? 7.Ra6+ Kc7 8.bxc5) 7.f6 The only real try. (7.Ke5 Re8+ 8.Kf4 Ra8; 7.Kd4 Rd8+) 7...gxf6 8.Kf5 Kb7 9.Kxf6 and now 9...Rxa7 is possible because of 10.Rxa7+ (Keeping the rooks on is more complicated but still leads to a draw. For example 10.Rh1 Kb6 11.h4 c5 12.bxc5+ Kxc5 =; 10.Rc1 Ra4 11.Rb1 Ra3 =) 10...Kxa7 11.Kxf7 c5 12.bxc5 Kb7 (12...b4 13.Ke6! b3 14.c6 =) 13.h4 b4 14.g5 hxg5 15.hxg5 b3 16.g6 b2 17.g7 b1Q 18.g8Q Qb3+ 19.Kg7 Qxg8+ 20.Kxg8 Kc6 =

(B) 3.Rd4 Ra8 4.Re4 is met by the simple 4...Kd8

(C) 3.f6 The computer considers this the best try. 3...gxf6 This is forced, as either ...g6 or ...g5 allow White gradually to prepare a winning breakthrough on the kingside while the Black rook is busy with the a-pawn. Now:

(C1) 4.h4 Ra8 5.Ra1 d6 6.cxd6+ Kxd6 7.Ke4 c5 =

(C2) 4.Rd6 Re1 5.Kf2 Ra1 6.Rxf6 Rxa6 7.Rxf7 Ra2+ 8.Kg3 Rb2 9.Rf4 (9.Rf6 Rxb4 10.Rxh6 Rc4 11.g5 Rxc5 12.h4 b4 13.Rf6 Rc1 =; On 9.h4 Rxb4 10.g5 h5 White should play 11 Rf4 because after 11...Rxf4 [11...Rb3+ 12.Kf2 Rb2+ 13.Kf3 Rb1 14.Kf2 =] 13.Kxf4 Kd8 White's protected passed pawn guarantees the draw even with a pawn less.) 9...Rb3+ =

(C3) 4.Kf4 Re2 5.Ra1 Kb8 6.a7+ Ka8 7.Rd1 Rb2 8.Rd4 Kxa7 9.Rxd7+ Kb8 10.Rd4 Rb3 11.h4 Kc7 12.Kf5 Rh3 (Not 12...Rf3+ 13.Rf4 Rxf4+ 14.Kxf4 Kd8 15.Kf5 Ke7 16.h5 +-) 13.Kxf6 Rxh4 14.Re4 (14.Kxf7 h5) 14...Kd7 15.Kxf7 h5 16.Re7+ Kd8 =

2...Re1 3.Re4 Rb1 4.h4! Another critical time gaining pawn move.

If 4.Kg3 Rb3+ 5.Kh4 Kd8; On the active 4.Re7 Rb3+ 5.Kg2 Rxb4 6.Rxf7 Ra4 7.Rxg7 b4 8.Re7 (8.f6? is too slow: 8...b3 9.f7 [9.Kg3 b2] 9...Rf4) 8...b3 9.Re1 Rxa5 10.Rb1 (10.f6 Ra8) 10...Rb5 11.f6 Rb8

12.h4 (12.f7 Rf8 13.Rxb3 Rxf7 =) 12...d6 13.f7 Rf8 14.Rf1 b2 15.g5 hxg5 16.hxg5 b1Q 17.Rxb1 Rxf7 18.Kg3 dxc5 19.Kg4 Kd6 20.g6 Rf2=

4...Rb3+

Black can also refrain from driving the WK to the 4th rank: 4...Rb2 5.g5 hxg5 6.hxg5 Kd8 7.f6 gxf6 8.gxf6 Rb1 9.Kf4 Rf1+ 10.Kg5 Rg1+ 11.Rg4 Rh1 12.Kf5 Rf1+ 13.Rf4 Ra1 14.Rh4 Rf1+ 15.Ke5 Re1+ 16.Kd4 Rc1 17.Rh8+ Kc7 18.Rf8 Rc4+ 19.Ke5 Rxb4 20.Rxf7 Rc4 21.Re7 Rxc5+ 22.Kf4 Rc1 23.Re3 +-

5.Kf4 Rb1

If 5...f6 6.g5 h5 The computer thinks this is the best try. (6...hxg5+ 7.hxg5 Rb1 8.a6 Kb8 9.g6 wins eventually with many complications, too many to give all the variations here.) 7.Re7 Rxb4+ 8.Ke3 Rxh4 9.Rxg7 Rh3+ 10.Kf2 fxc5 11.a6 Ra3 12.f6 Rxa6 13.f7 Ra2+ 14.Ke3 Ra3+ 15.Ke4 Ra4+ 16.Kf5 Rf4+ 17.Kxg5 Rf1 18.Kg6 b4 19.Rg8 +-

6.a6 Rf1+

6...f6? 7.g5 Rf1+ 8.Kg4 hxg5 9.hxg5 Rg1+ 10.Kf3 Rxg5 11.Re8 Rxf5+ 12.Kg4 Rg5+ 13.Kf4 Re5 14.Rh8 Re1 15.a7 +-; Or 6...Ra1 7.Re7 Rxa6 8.Rxf7 Ra4 9.Ke5 Rxb4 10.Rxg7 +-

7.Kg3 Ra1 8.Re7 Rxa6 9.Rxf7 Ra4

Trying to finesse things with 9...Ra3+ 10.Kf4 Ra4 leads to the same result: 11.Rxg7 Rxb4+ 12.Ke5 +- Rc4 13.f6 Rxc5+ 14.Ke4 Kd6 15.g5 Rc4+ 16.Kf5 Rxh4 17.f7 Ke7 18.g6 +-

10.Rxg7 Rxb4 11.f6 Rb1 12.g5 hxg5 13.hxg5 Rf1 14.f7 Kd8 15.Rg8+ Ke7 16.g6 +- Despite his obvious positional advantages, White needed extreme precision to win, involving the time gaining pawn moves f5 and h4. (Source: Danny Kopec composition, 1992)

R + P Position 34



Cat 7: better king. Pawn structure is more balanced than Position 7. This is the kind of position where it is difficult to demonstrate forced winning variations but it is more important to appreciate strong winning ideas involving goals to convert to a Category 1 position. For this reason we do not give all the possibilities but only a few sample lines at each branching point. **1.Re2** Threatening e4. **1...f5 2.Rg2! g6 3.h4** White can also try to improve some of the main variations by inserting 3.c4 here or at some later point.



The most methodical approach is 3.g5 but it seems to fall short. 3...Rh8 If Black does not play this then White follows with h4, h5 and Rh1, winning. 4.h4 h5 5.gxh6 Rxh6 6.h5! gxh5 (6...Rxh5 7.Rxg6 wins.) 7.Rg8+ Kd7 8.Kxb7 h4 9.Rg2 h3 10.Rh2 Rh8 11.b4 (*The immediate 11.Kxa6 transposes in a few moves.*) 11...Rh7 (11...Kd6 12.Kxa6 Kc7 13.Ka7 Rh7 14.b5 is winning for White.)

12.Kxa6 Kc7 [SEE ANALYSIS DIAGRAM]

(Not 12...Rh8 13.Kb7)

Now:

(A) 13.b5 cxb5 14.Kxb5 (14.axb5 Kd6 15.b6 Kc6 =) 14...Rh8 15.c4 (*After 15.a5 it is very complicated but 15...Rb8+ seems to draw eventually.*) 15...dxc4 16.Kxc4 Kd6 (16...Kc6 17.d5+! exd5+ 18.Kd4 Kd6 19.a5 Rh5 20.a6 Rh7 21.Rb2 Kc6 22.Ke5 h2 23.a7 Rxa7 24.Rc2+ Kb5 25.Rxh2 Kc4 26.Kxf5 is winning for White.) 17.a5 Rc8+ 18.Kb5 Rb8+ 19.Ka4 (19.Ka6 Kc6 20.Rc2+ Kd5 and Black draws.) 19...Rh8 20.a6 Kc6 21.Ka5 Rh7 22.d5+ Kxd5 23.Kb6 Ke4 24.a7 Rxa7 25.Kxa7 Kxe3 26.Rxh3+ Kxf4 is a book draw. White will have to sacrifice his rook for the last Black pawn.

(B) 13.Ka7 Kd6+ (13...Rh6 14.b5 cxb5 15.axb5 Rh7) 14.Kb6 Rh8 15.b5 cxb5 16.axb5 Rh7 17.Ka6 Rh8 18.b6 Kc6 19.b7

(B1) 19...Rb8? 20.c4! wins:

(B1a) 20...dxc4 21.Rc2 h2 (21...Rxb7 22.Rxc4+ Kd5 23.Rc5+ Ke4 24.Kxb7 h2 25.Rc1 Kxe3 26.Rf1 wins for White with a few more accurate moves.) 22.Rxh2 Rxb7 23.d5+! and Black must lose his rook.

(B1b) 20...Rxb7 21.cxd5+ Kc7 22.Rxh3 Rb3 23.dxe6 Kd6 24.d5 Rd3 25.Rh5 Kxd5 26.Rxf5+ Kxe6 27.Re5+ and White wins.

(B2) 19...Kc7! A little finesse that makes a big difference. 20.Ka7 Rb8 The point - the b7 pawn goes with check. 21.Rb2 h2 22.Rxh2 Rxb7+ 23.Ka6 Rb3 24.Rc2 Kd6 25.Ka5 Rb1 and White cannot win.

Now back to the main line:

3...fxg4 3...Rg7 4.gxf5 exf5 5.h5 Rg8 6.hxg6 hxg6 (6...Rxg6 7.Rxg6 hxg6 8.c4 dxc4 9.bxc4) 7.Rg3 Rg7 8.Rh3 Re7 9.c4 dxc4 10.bxc4+- **4.Rxg4** If now 4...Rf8 planning to meet Rg5 with ...Rf5 then 5.h5! gxh5 6.Rg7 Rh8 7.Rc7+ Kb8 8.Rxb7+ Ka8 9.Ra7+ Kb8 10.b4 h4 11.Rg7 h3 12.Rg1 h5 13.Rh1 h4 14.Rxh3 +- Instead, the blockading attempt **4...h5** ultimately fails to **5.Rg3 Rg7 6.e4!** etc. For example **6...dxe4 7.Re3** followed by ideas eventually of Rxe4, c4 and d5. **7...Kd8 8.Rxe4 Re7 9.c4 Ke8 10.Kc5** The most precise move, preventing the ...Kf7, ...Rd7 idea that occurs in the note to 10 Re5.

If 10.Re5 Kf7 11.a5 Rd7 12.Re4 Kf6 (12...Re7) 13.Ka7 Kf5 14.Re5+ Kxf4 15.Rxe6 g5 16.hxg5 Kxg5 17.Kb8 h4 18.Kc8 Rxd4 19.Kxb7 Rd3 20.b4 Rd4 21.Kxa6 (21.Kxc6 Rxc4+; 21.Rxc6 h3) 21...Rxc4 =

10...Kd8 11.a5 Ke8 12.Re5 12.d5? exd5 13.Rxe7+ Kxe7 14.cxd5 cxd5 15.Kxd5 Kf6 (15...Kd7 16.Ke5) 16.Kc5 Kf5 17.Kb6 Kxf4 18.Kxb7 g5 19.hxg5 Kxg5 20.Kxa6=; 12.Kd6 Rd7+ 13.Ke5 Rf7= **12...Kd7 13.Rg5 Rg7** 13...Rf7 14.Rxg6 Rxf4 15.Rg7+ Kc8 16.Kb6 Rxd4 17.Rc7+ Kd8 18.Rxb7 e5 19.Kxa6 Rd3 (19...e4 20.Kb6 e3 21.a6) 20.Kb6! Rxb3+ 21.Kxc6 Ra3 22.Rb5+- **14.d5** At last! **cxd5 15.cxd5 Rf7** 15...exd5 16.f5 Ke7 17.Kxd5 +-
16.Rxg6 exd5 17.Rd6+ Kc8 18.Rxd5 Rxf4 19.Rxh5 Kc7 20.b4 Re4 21.Rh7+ Kc8 22.h5 Kb8 22...Rh4 **23.Rd7 Rh4 24.Rd5 Ka7 25.Rg5 Rh3 26.b5** This is not essential but it takes away all

counterplay. The immediate 26.Kd5 would win too. **26...axb5 27.Kxb5** after which the White king just marches to the kingside to support the h-pawn. (Source: Danny Kopec composition, 1992)

R + P Position 35



Cat 2: better rook, pawns. The Black rook is tied to the defense of his a-pawn and therefore passive. White can use this important factor to improve his position and obtain the better King. **1.Kg4** planning h5 and f4. If White plays simply 1.f4 then 1...exf4 2.gxf4 Rd8! with counterplay. (2...Re8 3.e5 etc. with similar consequences to the main line.)

Not 1.h5? Ra7 2.Kg4 (If White tries to prevent ...g6 by 2.Rb6!? then 2...Rc7 and if 3.Ra6 [3.Rb5 Ra7 just repeats] 3...Rc3 4.Kg4 f5+!! 5.exf5 [or 5.Kxf5 Rxf3+] 5...Rc4+) 2...g6 which transposes to a defensive idea given in the note below.

1...g6 If 1...Ra7 2.Kf5! first, and only then h5 and f4. That is because if 2.h5? g6 and Black hangs on, as White no longer has Rb7+. **2.Rb7+ Kg8 3.h5** +- (Source: Danny Kopec composition, 1995)

Chapter 6

The Other Endings Test

Discussion: The Other Endings Test

Now that we have covered rook and pawn endings it seems natural to round out our effort with other endings. That is what this Test Set is about. It explores diverse material situations where generally one side has an advantage or whereby the defending side is hard-pressed to find the correct drawing move. Some of the many typical material situations covered include: bishop endings, knight endings, bishop vs. knight, bishops of opposite color endings, two bishops vs. bishop and knight, rook and bishop vs. rook and knight, rook vs. knight and bishop, and queen endings. In most instances we have tried to select positions which illustrate the most important concepts related to the ending being tested. Regardless of what you knew before you took this test, we are certain that you will be more knowledgeable about diverse endings when you have completed it.

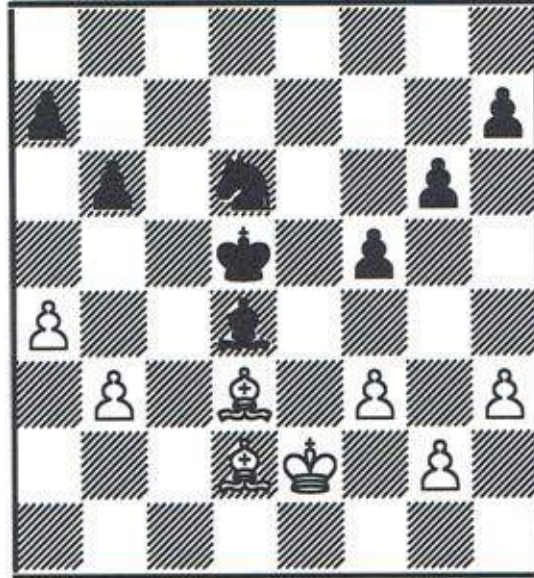
Instructions for Taking This Test

You are allowed two minutes for each of the following positions. Once again, we allow up to four choices for each position. If you find the correct move on your first choice you get 1 full point, if you find it on your second choice you receive a $1/2$ point credit, if you find it on your third choice you receive a $1/3$ point credit, and a correct move on your fourth choice receives $1/4$ point credit. You get full credit for the level of difficulty number if any of your four choices is correct. Good luck!

***Answer Sheet for
Other Endings Test***

Position Number	Preferred Choice	2nd Choice	3rd Choice	4th Choice	Side to Move
1.					White
2.					White
3.					Black
4.					White
5.					White
6.					White
7.					Black
8.					Black
9.					Black
10.					White
11.					Black
12.					White
13.					Black
14.					White
15.					Black
16.					White
17.					White
18.					White
19.					White
20.					Black
21.					White
22.					White
23.					Black
24.					Black
25.					Black
26.					White
27.					White

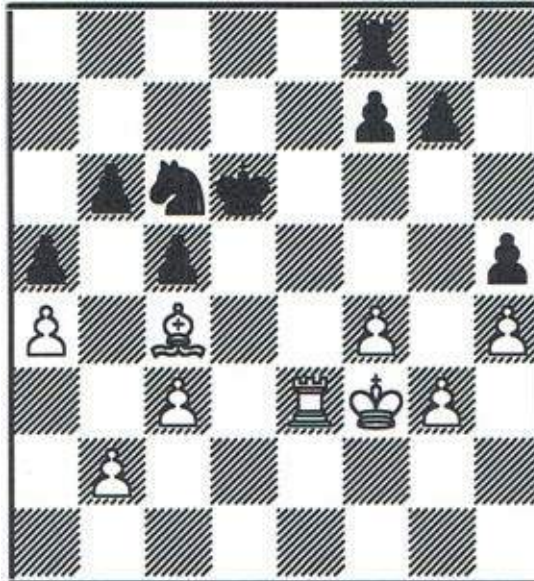
209



Other Endings Test Position 1

White to move

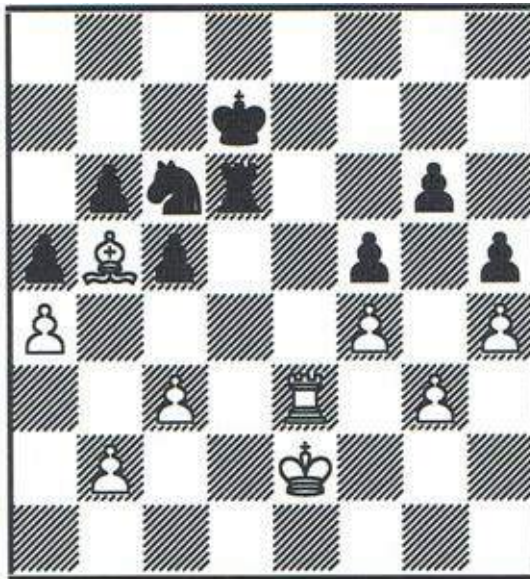
210



Other Endings Test Position 2

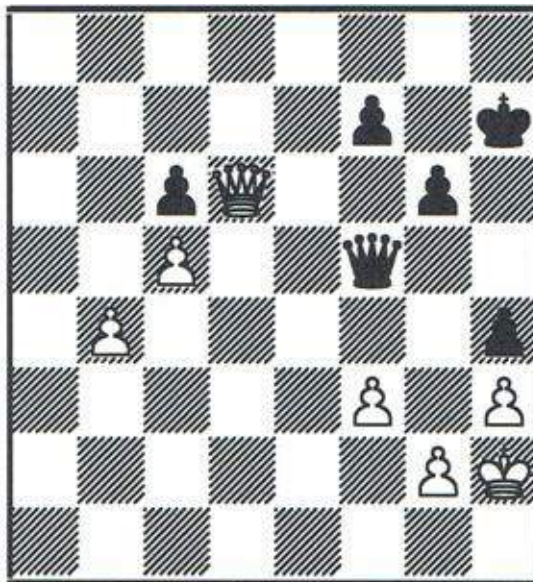
White to move

211



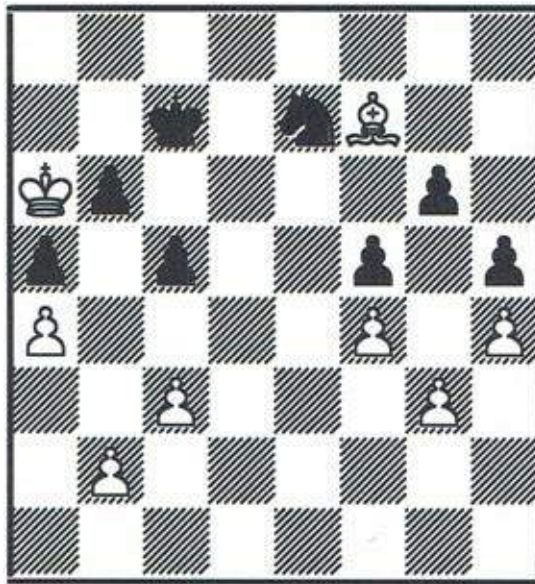
Other Endings Test Position 3
Black to move

212



Other Endings Test Position 4
White to move

213



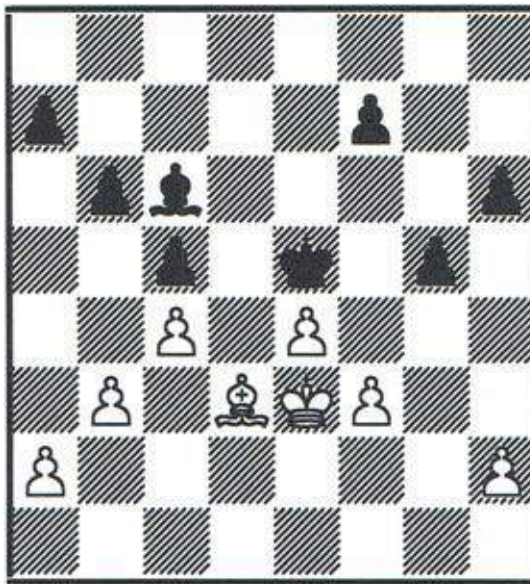
Other Endings Test Position 5
White to move

214



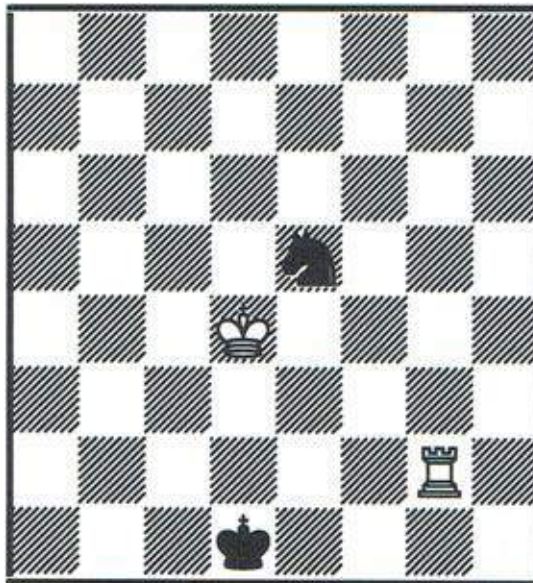
Other Endings Test Position 6
White to move

215



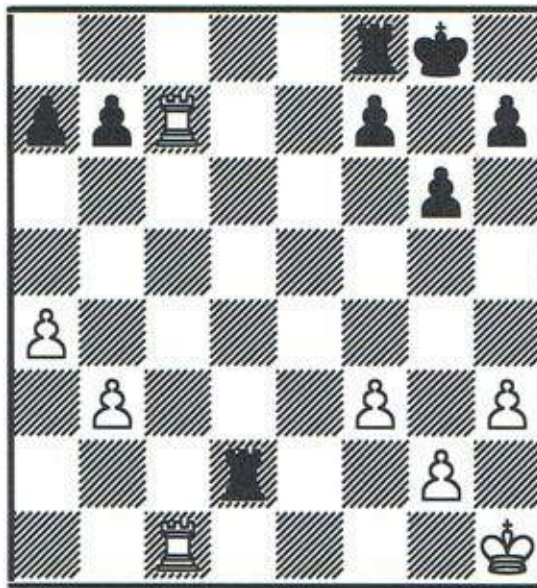
Other Endings Test Position 7
Black to move

216



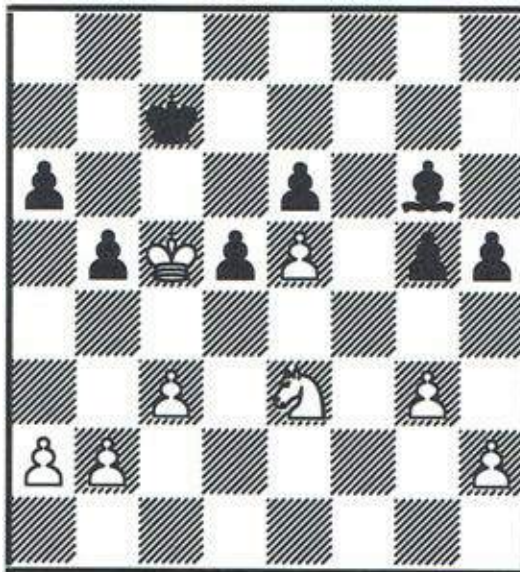
Other Endings Test Position 8
Black to move

217



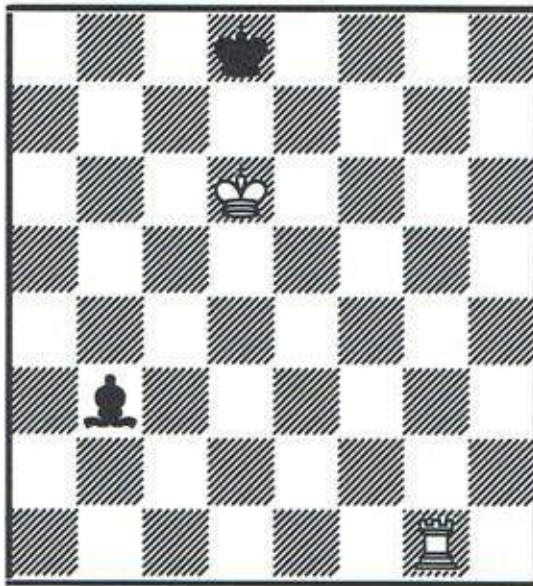
Other Endings Test Position 9
Black to move

218



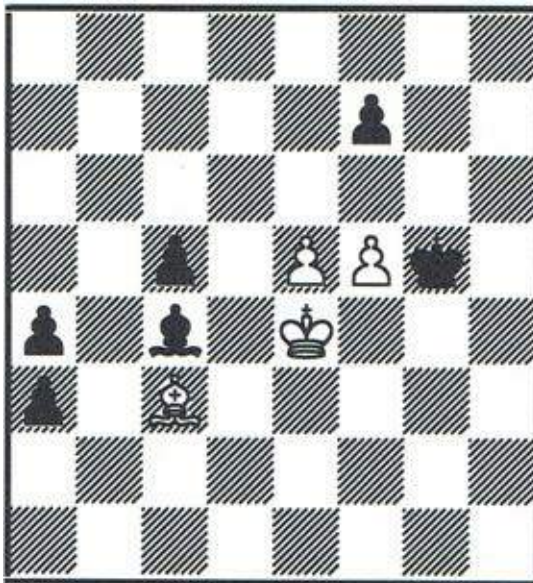
Other Endings Test Position 10
White to move

219



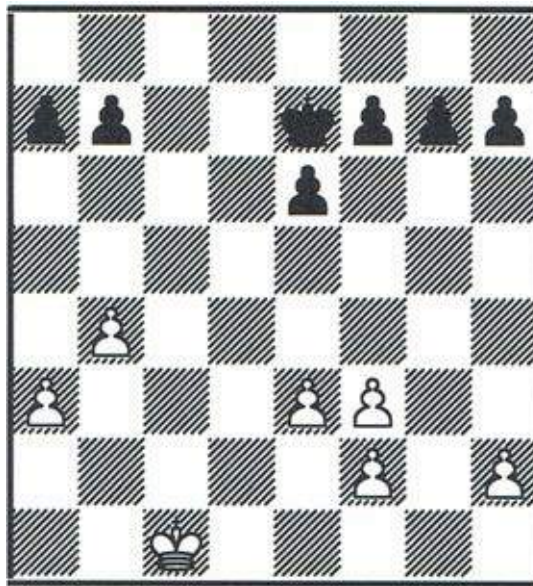
Other Endings Test Position 11
Black to move

220



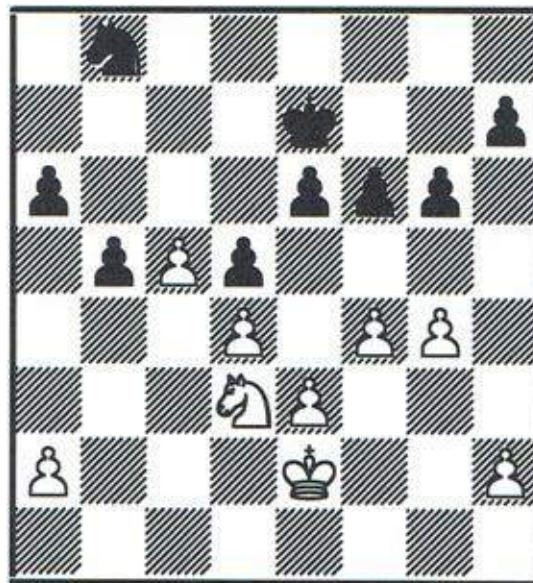
Other Endings Test Position 12
White to move

221



Other Endings Test Position 13
Black to move

222



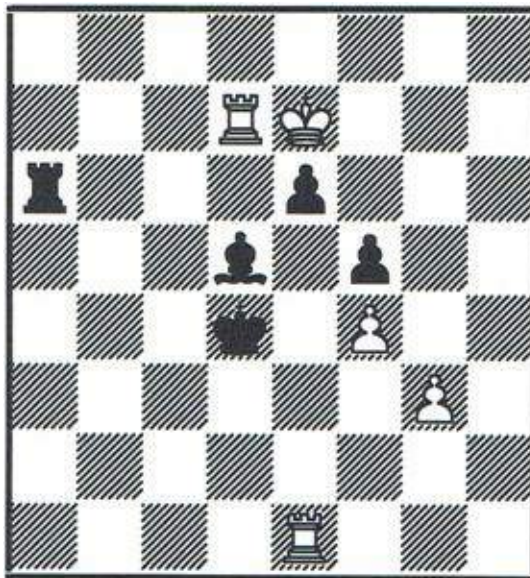
Other Endings Test Position 14
White to move

223



Other Endings Test Position 15
Black to move

224



Other Endings Test Position 16
White to move

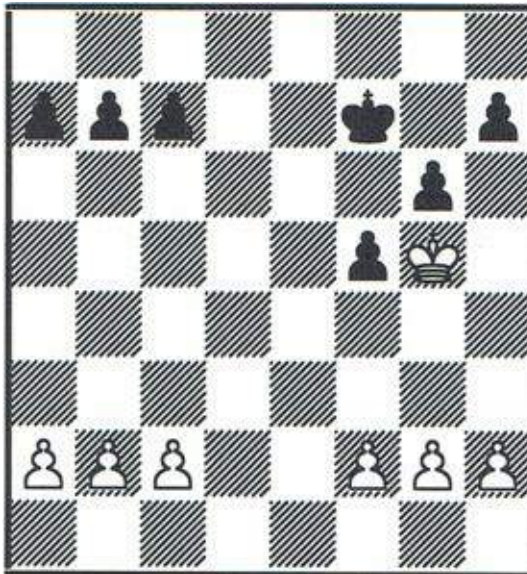
225



Other Endings Test Position 17

White to move

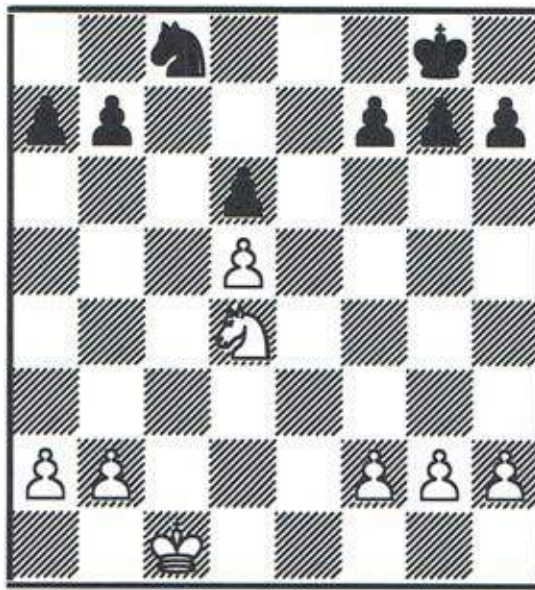
226



Other Endings Test Position 18

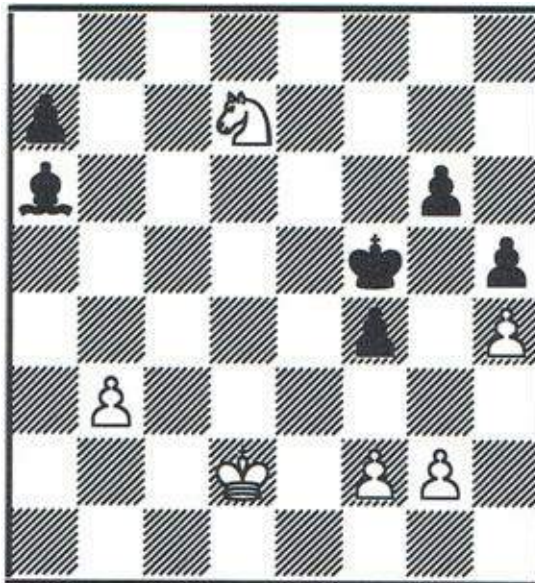
White to move

227



Other Endings Test Position 19
White to move

228



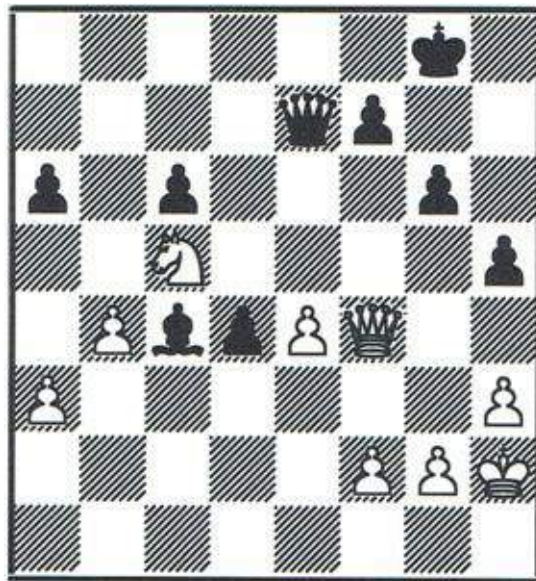
Other Endings Test Position 20
Black to move

229



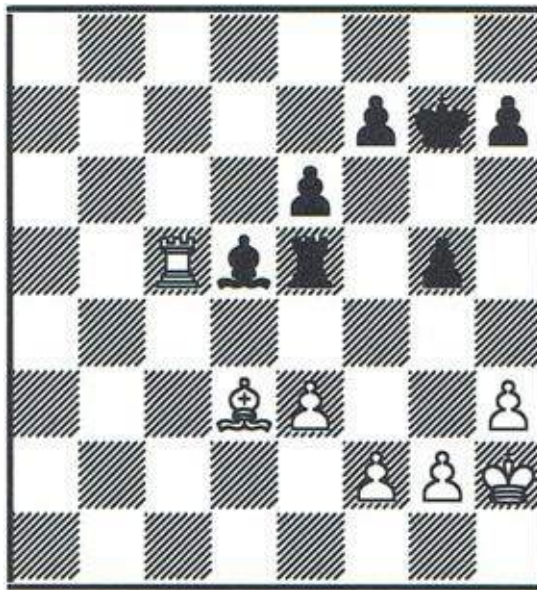
Other Endings Test Position 21
White to move

230



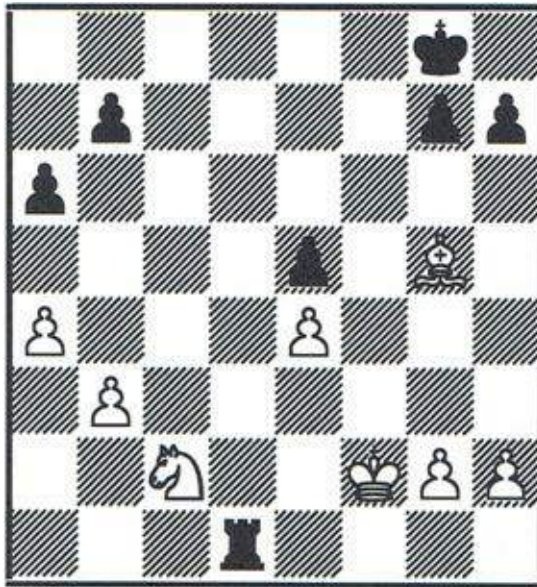
Other Endings Test Position 22
White to move

231



Other Endings Test Position 23
Black to move

232



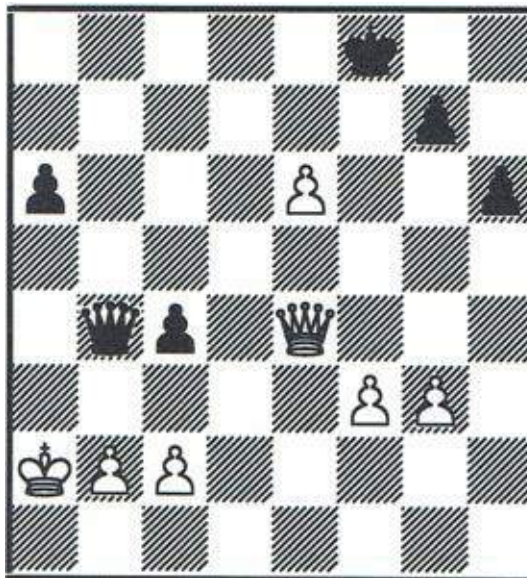
Other Endings Test Position 24
Black to move

233



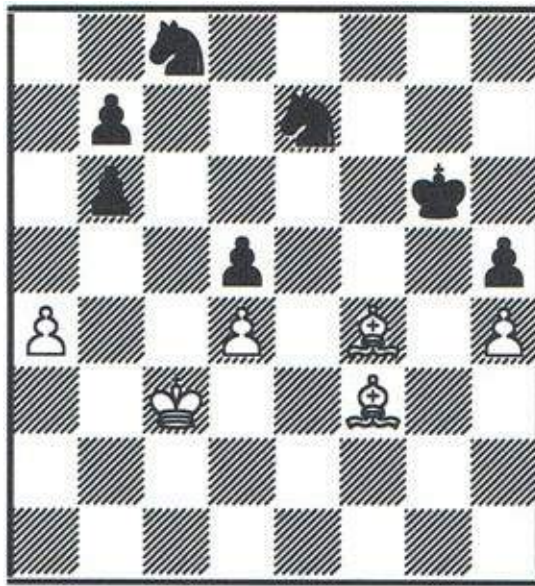
Other Endings Test Position 25
Black to move

234



Other Endings Test Position 26
White to move

235



Other Endings Test Position 27
White to move

Solution Key to Other Endings Test

Position Number	Side to Move	Level of Difficulty	Solution
1.	W	3	1.Bb1
2.	W	2	1.Rd3+
3.	B	2	1...Kc7
4.	W	2	1.b5
5.	W	2	1.Be8
6.	W	3	1.e5
7.	B	2	1...Bd7
8.	B	4	1...Nc6+
9.	B	1	1...Re8
10.	W	2	1.h4
11.	B	2	1...Ke8
12.	W	2	1.e6
13.	B	2	1...Kf6
14.	W	2	1.f5
15.	B	2	1...Bb3
16.	W	2	1.Rd6
17.	W	2	1.a5
18.	W	2	1.Kh6
19.	W	2	1.Nb3
20.	B	2	1...Bc8
21.	W	3	1.g4
22.	W	2	1.e5
23.	B	3	1...h6
24.	B	2	1...Rb1
25.	B	2	1...f5
26.	W	2	1.Qf5+
27.	W	2	1.Bg5

Other Endings Position 1



Kopec - Shapiro
Continental Open, 1976

Two bishops vs bishop and knight. **48.Bb1!** In Basic Chess Endings, Fine explains a step by step process whereby the side with the two bishops makes steady progress towards victory (page 262 in the new edition or pp. 256–57 in the old edition). One of the critical components of this process is to drive the defending king out of the center. That is exactly what the text move accomplishes. From here on, Black gets pushed back, White probes for

weaknesses using the long-range "telepower" (Kmochn's term for long range attacking potential) of the bishops, and wins material. **48...Be5 49.Kd3 Bf6 50.b4 Ke6 51.Ba2+ Ke7** (See test position 17, diagram 225, in this test.) White doesn't win material yet but he has completed the first three stages of Fine's four stage process for winning the ending two bishops versus bishop and knight, namely: 1) the Black king has been driven out of the center. 2) the White king's position has been improved and 3) White's bishops have become active.

Other Endings Position 2



Fischer - Taimanov
Vancouver (1), 1971

Rook and bishop vs rook and knight. **1.Rd3+ ±** This move is part of the process by which Fischer will try to demonstrate the superiority of his rook and bishop over Taimanov's rook and knight. The intent of this check is to follow with 37.Rd5 hitting at Black's unprotected h-pawn. Then on 37. ...g6 White's light-squared bishop will have more targets. Instead Taimanov played 37. ...f5 which gave Fischer other light-square weaknesses to focus

on.



Other Endings Position 3

Fischer - Taimanov
Vancouver (1), 1971

Rook and bishop vs rook and knight. Correct was **1...Kc7 2.Rd3 Re6+ 3.Kd2 Re8** when Black avoids the trade of rooks. Although White still has a better position and winning chances, Black puts up much stiffer resistance. **1...Kd8?** is the move played by Taimanov. It allows Fischer to trade into a simpler ending, namely bishop vs knight, in which he will be able to force a

zugzwang position.

212

Other Endings Position 4



Maroczy - Bogoljubow
Dresden, 1936

Queen and pawn ending. **1.b5** This move achieves the most important goal of all queen and pawn endings: a passed pawn which can be escorted by the queen. Of course if White plays **1.Qxc6** Black draws by **1...Qf4+** The game continued **1...cxb5 2.c6 Qc2** If **2...b4 3.Qxb4 Qe5+** **4.f4 3.Qd5** Simpler was **3.c7** immediately. **3...Kh6 4.Qd6 Qc4 5.c7 Kh7 6.Qd7 Qf4+ 7.Kg1 Qc1+ 8.Kf2 Qc5+ 9.Ke2 Qc2+ 10.Ke3 Qc5+ 11.Ke4 Qc4+ 12.Ke5 Qc3+ 13.Kd5**

Qc4+ 14.Kd6 Qb4+ 15.Kc6 Qc3+ 16.Kb7 +-. Many people fear and overrate the difficulty of queen endings because of all the checks involved. In practice they are not so hard to calculate. (Source: Queen and Pawn Endings, #214)

213

Other Endings Position 5



Fischer - Taimanov
Vancouver (1), 1971

Bishop vs knight. **1.Be8** is the winning idea. Fischer effects a zugzwang which enables him to sacrifice his bishop for three pawns, enabling the entry of his king. The game ended: **1...Kd8 2.Bxg6! Nxc6 3.Kxb6 Kd7 4.Kxc5 Ne7 5.b4 axb4 6.cxb4 Nc8 7.a5 Nd6 8.b5 Ne4+ 9.Kb6 Kc8 10.Kc6 Kb8** and Black resigned. **1-0**

214

Other Endings Position 6



Voronkov - Ignatiev
Moscow, 1958

Exchange up. Here is a situation whereby Black has full material compensation (two pawns) for the exchange, but White has a passed e-pawn which can be used immediately to produce decisive results: **1.e5 g5 1...Ke6 2.Ke4 2.Rh8 h4 3.Rh7+ Ke6 4.Ke4 Bc5 5.Rh6+ Kd7 6.e6+ Kd8 6...Kd6 7.Kf5 (threatening Rh7, with Rd7 to follow) 7.Rh8+ Kc7 8.Rh7+ Kd8** If **8...Kd6** then once again **9.Kf5 9.Rxb7 g4 10.Rd7+ Ke8 11.Rh7 Bf2 11...g3**

12.Kf3 and if **Be7 13.Rh8+** (Having this resource was one of the points of **Rd7+** at move 10.) **13...Bf8 14.Rxh4 12.Kf4 g3 13.Kf3 h3 14.Rxh3 Ke7 15.Rh6 Kd6 16.Rg6 Be1 17.Kf4 Bf2 18.Kf5 Ke7 19.Rg7+ Ke8 20.Ke5 Be1 21.Kd5 Bf2 22.Kd6 Kf8 23.Rg4 1-0** Note how carefully White advanced his passed pawn while making sure that Black's passed pawns were restricted. (Source: Rook v. Minor Piece Endings, #160)

215

Other Endings Position 7



Bonner - Kopec
Richardson Cup, 1981

Same color bishop ending. The game position was adjudicated a win for Black. It was the decisive game in the Finals of the Richardson Cup Team Championships in Scotland in 1981. The point is that White has all the inferior features in the position: a worse pawn structure (three islands with pawns fixed on the color of his bishop), the worse king, and the worse bishop (no Black pawns to attack). The winning plan is for Black to put his

bishop on e6 or g6 and then to play ...f5. If White takes then after the trade of bishops (otherwise Black plays Bb1) the ensuing king and pawn ending is lost for White since Black has more tempi thanks to his healthy kingside pawns versus White's split pawns. The White king would have to retreat. The idea ...a5-a4 is an important tool for Black in that ending. If White does not capture on f5 then ...f4+ drives back the White king, allowing the Black king to enter with decisive effect.

1...Bd7 2.Bf1 f5 3.exf5

If **3.Bd3 f4+** Now the Black king becomes so dominant that White's position is immediately hopeless. The fact that the e-pawn is now passed is irrelevant, as the pawn will not be able to go anywhere.

(A) **4.Kf2 4...Kd4 5.Bb1 (5.Be2 a5 would be similar.) 5...a5 (or 5...h5 6.Ke2 g4) 6.Ke2 Kc3** Now if **7.e5 Kd4** just picks off the pawn.

(B) **4.Kd2 Kd4 5.Bf1 (or 5.Be2 Bh3! [Another good plan is 5...h5 6.Bf1 g4 7.Bg2 h4] when Black has a variety of good plans on both wings.) 5...g4 6.Bg2 gxf3 7.Bxf3 Bc6**

3...Bxf5 4.Bd3 Other moves are hopeless, for example **4.a3 a5 5.Be2 Bc2**; Or **4.Be2 Bb1 5.a3 a5 6.Bd1 Bg6** and White will soon run out of moves. **4...Bxd3 5.Kxd3 Kf4 6.Ke2 g4 7.fxg4 Kxg4 8.Kf2 8.Ke3 Kh3 9.Kf4 Kxh2 10.Kg4 Kg2 11.Kh5 Kf3** and Black reaches the queenside pawns first. **8...a5 9.Kg2**

(A) On **9.a4 Kf4+** **10.h3 Ke4 11.Kg3 (White cannot defend with 11.Ke2 Kd4 12.Kd2 h5 13.h4 because**

once the h-pawn is on the 4th rank, Black just marches back and takes it.) 11...Kd4 12.Kh4 Kc3 13.Kh5 Kxb3 14.Kxh6 Kxc4 15.h4 b5! (15...Kb3 would win too but not as easily. After 16.Kg6 c4 17.h5 c3 18.h6 c2 19.h7 c1Q 20.h8Q Qc6+ 21.Kg5 Kxa4 Black is winning but still has to grind out the queen ending. Why do that if you don't have to?) 16.axb5 Kxb5 17.h5 a4 18.Kg7 a3 19.h6 a2 20.h7 a1Q+ 21.Kg8 c4 22.h8Q Qxh8+ 23.Kxh8 c3 and so on.;

(B) 9.Ke3 Kh3 10.Kf3 Kxh2 11.Kg4 a4 is similar to other lines we have seen; Black gets back to the queenside first.

9...a4 10.Kf2 If 10.bxa4 Kf4 **10...Kf4 11.Ke2 Ke4 12.Kd2 axb3 13.axb3 Kd4 14.Kc2 Ke3** Precision is required. It's still possible for Black to throw it all away with one bad move. For example 14...h5?? 15.Kd2 and now it's a draw: 15...Ke4 16.Ke2 Kf4 17.Kf2 Kg4 18.Kg2 h4 19.h3+ Kg5 20.Kg1!= **15.Kc3 h5 16.h4 Kf3 17.b4 Kg4 18.b5 Kxh4 19.Kd3 Kg3 20.Ke4 h4 21.Kd5 h3 22.Kc6 h2 23.Kxb6 h1Q 24.Kxc5 Qb7** -+ is a simple win for the queen. The White pawns are not a serious threat.

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Other Endings Position 8



D. Kopec Composition, 1978

Rook vs knight without pawns. **1...Nc6+** The only drawing move. After 1...Nf3+? 2.Ke3 Ne5 (2...Ne1? 3.Rg1+-) 3.Rg5! (The only winning move) 3...Nc4+ 4.Kd3 Nb2+ 5.Kc3 Na4+ 6.Kb3 Nb6 and now Black's knight is truly stranded. With the help of Ken Thompson's database we know that after 3.Rg5! Black was lost in 10 moves. **2.Kd5 Nb4+ 3.Kc4 Nc2** = when the Black king and Black knight are safely together. This position is significant in our studies of king and rook vs. king and knight because it is

the first position found where the drawing move for the knight's side had to be a move where Black king and Black knight were further separated, instead of being kept close together as theory dictates. (Source: Danny Kopec composition, 1978, from Advances in Computer Chess 2)

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Other Endings Position 9

Kopec/Terrie Composition, 1995



Double rook ending. **1...Re8!** The rule in rook and pawn endings, and especially endings with four rooks, is that the rooks must be active and preferably connected. Black's rook tries to join its colleague on the 2nd rank. (1...Rb8? loses to 2.Re7 with the idea of Rcc7) Now on **2.Rxb7 Ree2 3.Rg1 Rb2 4.b4 a5 5.b5 Rb4** = Any time White may try to activate his king rook Black will respond by doubling on the 2nd (his 7th) rank.

(Source: Danny Kopec and Hal Terrie composition, 1995)

Other Endings Position 10



Zubareff - Alexandrov
Moscow, 1915

Knight vs bad bishop. **1.h4!** Black's bishop has little to attack and his pawns are fixed on its color. White forces access to the f4 square for his knight from which he will be able to attack Black two weak points simultaneously: h5 and e6. Black will soon run into zugzwang when the White king can force his entry into the Black position. A sequence could go **1...gxh4 2.gxh4 Be4** to prevent Ng2 **3.a3** (pass) **3...Bf3 4.Nc2!** +- followed by Nb4 and wins.

(Source: Basic Chess Endings, #520 - or #251 in the old edition.)

Other Endings Position 11



D. Kopec Composition, 1995

Rook vs bishop without pawns. The main thing that is important to know in this ending is that the defending king should head for the corner opposite colored from the bishop. **1...Ke8** = If **1...Kc8?** **2.Rc1+!** Kd8 (**2...Kb8 3.Rb1 +-**) **3.Rb1 +-** (Source: Danny Kopec composition, 1995)

Other Endings Position 12



Maroczy - Pillsbury
Munich, 1900

Bishops of opposite color. There are two ideas embedded in this position: 1) White should exchange off all the kingside pawns, even if it costs him his last pawn and 2) Black has no way to win with his 3 queenside pawns because he is left with a passed rook pawn and a bishop of the wrong color. **1.e6 fxe6 1...f6 2.Bd2+ Kg4 3.Bc3 2.fxe6 Bxe6 3.Ke5 Bb3 4.Kd6 c4 5.Kc5 Kf5 6.Kb4 a2 7.Ka3 Ke4 8.Kb2 Kd3 9.Ka1!** = In addition, White has a

stalemate trick.

Other Endings Position 13



Cohn - Rubinstein
St. Petersburg, 1909

King and pawn ending. **1...Kf6!** Black is winning this king and pawn ending because White's pawns are weakened in 3 ways: 1) he has three islands 2) he has doubled f-pawns and 3) he has fewer pawn tempi available due both to his pawn weaknesses and his pawn advances on the Q-side. **2.Kd2 Kg5 3.Ke2 Kh4 4.Kf1 Kh3 5.Kg1 e5!** and now White's lack of pawn moves becomes evident.

6.Kh1 b5 7.Kg1 f5 8.Kh1 g5 9.Kg1 h5 10.Kh1 g4 11.e4 fxe4 12.fxe4 h4

13.Kg1 g3 14.hxg3 hxg3 0-1

Other Endings Position 14



Pillsbury - Gunsberg
Hastings, 1895

Knight and pawn ending. **1.f5!** This position is noteworthy because the most basic elements of pawn structure prevail, notwithstanding the presence of knights. The text is a fundamental lever which strikes at the heart of Black's position. **1...g5 2.Nb4!! a5 3.c6!! Kd6 4.fxe6!! Nxc6 (4...axb4 5.e7 Kxe7 6.c7 +-)** **5.Nxc6 Kxc6 6.e4!** is winning, as after **6...dxe4 7.d5+ Kd6 8.Ke3 b4 9.Kxe4 a4 10.Kd3 b3 11.axb3 a3 12.Kc2 f5 13.gxf5 +-** as Black's widely separated passed and potentially passed pawns will not be able to

offset White's very advanced and connected central passed pawns. (Source: Basic Chess Endings, #246 - or #135 in the old edition). Further analysis of this king and pawn ending may be found in Basic Chess Endings, #164, or #90 in the old edition.

Other Endings Position 15



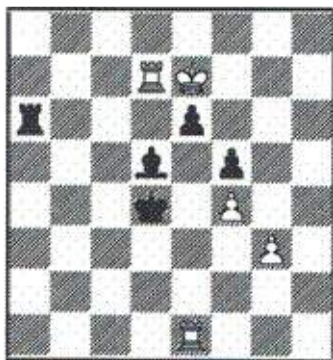
Berger - Mackenzie
Frankfurt, 1887

Bishops of opposite color. This position illustrates the main aspect of bishops of opposite color endings: Block your opponent's pawns on the color of his bishop, while advancing your pawns through the color of the opposing bishop whenever feasible. **1...Bb3 2.Bb8 a5! 3.Bc7 a4 4.Bxb6 a3 5.d5 Bxd5 5...Bc4? 6.d6 a2 7.d7 a1Q+ 8.Kh2 = 6.Bd4+ f6 7.c4 Bxc4 8.Kf2 Kf7 9.Ke3 Ke6 10.g3 g5 11.h4 gxh4 12.gxh4 f5 -+** and the widely separated passed pawns win for Black. (Source: Basic Chess Endings, #431 - or #210 in the old edition.)

Other Endings Position 16

Radjabov - Anand

Wijk aan Zee, 2008



Exchange ahead. **84.Rd6** with the idea that after **84...Ra7+** (or 84...Rxd6 85.Kxd6 +/-) **85.Kf6** +/- White follows with a decisive exchange sacrifice on e6.

Other Endings Position 17

Kopec - Shapiro

Continental Open, 1976

Two bishops vs bishop and knight. The continuation from the earlier Kopec - Shapiro game fragment. Now that White has achieved activity for his bishops and king, it is important to probe Black's position further. **54.a5!** +/- This move forces the necessary opening of further avenues to Black's position, which ultimately leads to the win of material. Not 54.Bxh7? Kf7 trapping the bishop. Instead White holds that threat in reserve.

Other Endings Position 18

Schuster Study (Adaptation), 1975

King and pawn ending. **1.Kh6 Kg8 2.h4!** and it is clear that the lever h5 will win for White. (Source: Mastering Chess, p. 89)

Other Endings Position 19



Alekhine - Anderson

Folkstone, 1933

Knight and pawn ending. As Mastering Chess co-author Ian Mullen suggests: Alekhine's winning plan is to convert his spatial advantage and better knight into the advantage of an outside

passed pawn by trading his d-pawn for one of Black's queenside pawns.

1.Nb3! Kf8 1...Ne7 2.Na5 Nxd5 3.Nxb7 Nb4 4.Nxd6 Nd3+ (4...Nxa2+ 5.Kc2 Nb4+ 6.Kc3 and the White king enters quickly.) 5.Kc2 Nxf2 6.b4! Kf8 7.b5

+– 2.Na5 b6 3.Nc6 Ke8 4.Kd2 Ne7 5.Nxa7 Nxd5 6.Nb5 Kd7 7.Nd4 g6 8.a4 Nc7 9.Kc3 g5 10.Kb4 d5 11.Nf3 f6 12.Nd4 Kd6? (loses quickly) A better defense is 12...Ke7 but then 13.a5 bxa5+ 14.Kxa5 Kd7 15.b4 Kc8 16.Kb6 +– 13.Nb5+ Nxb5 14.Kxb5 Ke5 15.b4 d4 16.Kc4 +– (Source: Mastering Chess, p. 94)

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Other Endings Position 20



Stoltz - Kashdan

The Hague (Olympiad), 1928

Bishop vs. Knight. This position represents the classic ending of B vs. N with pawns on both sides of the board, where the bishop dominates.

41...Bc8! If now 42.Nc5 Black can proceed with 42...Kg4 and on 43.Nd3 Bf5. Therefore White tried **42.Nf8** Trying to discourage ...Kg4 but now

42...g5 43.g3 If 43.hxg5 Kxg5 the knight is trapped. Black follows with ...Kh6–g7. **43...gxh4 44.gxh4 Kg4 45.Ng6 Bf5** wins material at last. **46.Ne7 Be6 47.b4 Kxh4 48.Kd3 Kg4 49.Ke4 h4 50.Nc6 Bf5+ 51.Kd5 f3!** A

necessary bit of precision, as the immediate 51...h3 would be met by 52.Ne5+ followed by Nf3. **52.b5 h3** Now the Black pawn just queens with an easy win. **53.Nxa7 h2 54.b6 h1Q 55.Nc6 Qb1 56.Kc5 Be4 0–1**

(Source: Basic Chess Endings #507, or #242 in the old edition.)

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Other Endings #21

Portisch - Reshevsky

Palma de Mallorca, 1970

Same color bishop ending. Portisch demonstrates the significance of the fact that Black's pawns are fixed on light squares. In all variations White forces an outside passed h-pawn. **1.g4 Bb1** If 1...hxg4 2.fxg4 Bb1 when White's outside passed h-pawn will win easily. **2.gxh5 gxh5 3.f4 Kd6** 3...Bxa2

4.Bxh5 f6 5.Bg6 Kd6 6.h5 Ke7 7.h6 Kf8 8.Kf3 +– **4.Bxh5 Ke7 5.a3 Bf5 6.Kf3 Bd7 7.Kg3 Kf8 8.Bg4 f5 9.Be2 Kg7 10.h5 Kh6 11.Kh4 Be8 12.Bd3**

Bd7 13.Ba6 Be6 14.Bb7 Bd7 15.a4 (Zugzwang!) **15...Be8 16.Bc8 Bxh5 17.Bd7 Bd1 18.Bxc6 Kg6 19.a5 Kf6 20.b5** +– (Source: 600 Endings, #218)



Other Endings Position 22



Jansa - Hennings
Karlovi Vari, 1973

Queen and knight vs queen and bishop ending. It is generally accepted that the knight and queen coordinate better than the bishop and queen. In the diagrammed position the dark squares around the Black king are weakened. This offers an ideal opportunity for the White knight and White queen to attempt to infiltrate this board sector. In addition the Black queenside pawns and his passed d-pawn are somewhat disjointed. The knight is an ideal piece for blockading and destroying such weakened formations. **1.e5**

Qd8 2.Ne4! (threatening Qh6) **2...Kh7** If **2...Kg7 3.Nd6 Bd5 4.Qxd4 Qg5 5.f3 h4 6.e6+ 6...f6** (or **6...Kh7 7.Qh8+!** or **6...Kf8 7.Qh8+ Ke7 8.Qd8+!**) **7.Qa7+ Kg8 8.Qb8+ Kh7 9.Ne8 +- 3.Nd6 Bd5 4.Nxf7 Qf8 5.Ng5+ Kg7 6.Qxd4** and White wins. (Source: The Best Move, Diagram #212)

Other Endings Position 23



Forintos - Jansa
Vrnjacka Banja, 1973

Rook and bishop vs rook and bishop (same color) ending. This is a noteworthy position for its apparent simplicity and the likelihood that a player with the Black position would underestimate the dangers confronting him. **1...h6**

If instead **1...f5? 2.g4!** The main idea behind this move is to undermine the protection of Black's Bishop. **2...Kf6** (White threatened **2...-- 3.gxf5 exf5 4.Bc4** winning.; If Black plays **2...fxg4** White has **3.e4** winning.) **3.gxf5 exf5**

(**3...h6 4.fxe6 Kxe6 5.Kg3 Kd6 6.Ra5** with a winning ending.) **4.f4!** wins a piece. The try **1...Kf6** just loses a pawn to **2.Bxh7**.

2.e4 Bxe4 3.Rxe5 Bxd3 when according to Hort and Jansa "Black has a pawn for the exchange and with all the pawns on the same flank the position is an easy draw." (Source: The Best Move, Diagram #216)

Other Endings Position 24



Reti - Bogoljubow
Bad Kissingen, 1928

Rook vs two minor pieces. In endings involving rooks, the single most important factor is the activity of the rooks involved. Here Black has a rook against a bishop and knight. He needs to win a pawn or two as further compensation for his material deficit. Therefore the correct move is: **1...Rb1** Black threatens ...Rxb3 as well as ...Rb2. **2.Ne3 Rxb3 3.a5 b5 4.axb6 Rxb6** Now the game should have continued: **5.Nc4**

Instead play continued **5.Ke2? Rb4! 6.Kf3 Kf7 7.Bh4 Rb1 8.Nc4 Ke6 9.Bg3 Rc1 10.Na5 (10.Nxe5? Rc3+ 11.Kf2 Rxb3--+) 10...Ra1 11.Nc4 Ra4 12.Ne3 a5 13.Be1 Ra3 14.Ke2 a4 15.Nc2 Rb3 16.Bb4** and Black eventually won this ending which should have been drawn.

5...Rb4 6.Nxe5 Rxe4 7.Nc6 Kf7 8.Be3 Ke6 9.Ke2 Kd5 10.Na5 Ra4 11.Bd2 Kc5 12.Kd3 Kb5 13.Nb7 and according to Fine "since the Black pawn still cannot advance a draw must result." (Source: Basic Chess Endings, #898 - or #452 in the old edition.)

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Other Endings Position 25



Spassky - Fischer
21st Match Game, 1972

Exchange up ending. This is the last game of the famous 1972 "Match of the Century" between Boris Spassky and Bobby Fischer. Fischer (Black) has been the exchange up for many moves and is looking for a way to convert his slight material advantage (technically speaking White only has one pawn for the exchange) and Spassky has just given him this opportunity by playing 30.g4?. The reason this move is bad is because it allows Black to undouble his f-pawns and force an outside passed h-pawn.

It is also noteworthy that White's ever-dangerous connected passed pawns on the queenside have been fully contained by Black's rook. **30...f5 31.gxf5 31.g5 f6 --+ 31...f6 32.Bg8 h6 33.Kg3 Kd6 34.Kf3 Ra1 35.Kg2 Ke5 36.Be6 Kf4 37.Bd7 Rb1 38.Be6 Rb2 39.Bc4 Ra2 40.Be6 h5 41.Bd7** The game was adjourned here but Spassky resigned without further play. **0-1**

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Other Endings Position 26



Kopec - Fang, J
Monadnock Marathon, 1991

Queen and pawn ending. **1.Qf5+**

White can also win with 1.Qa8+ Ke7 2.Qxa6 but the game continuation is easier. If 1.Qd5?! Qa4+ 2.Kb1 Ke7 and White still has to work to win. After the game move both Ke8 and Ke7 lose to 2.Qf7+.

1...Kg8 2.Qd5 Kh7 If 2...Qb5? (the game continuation) White wins the K+P ending. **3.Qd8** +- Attack and defense! The queen prepares to escort the e-

pawn while stopping the check at a5.

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Other Endings Position 27



Botvinnik - Bronstein
World Championship, 1951

Two bishops vs two knights ending. **1.Bg5** This move is so strong in demonstrating the power of two bishops, and the helplessness of two Knights when passively posted and required to defend each other, that Black resigned. A possible continuation might have been: **1...Nc6 2.Bxd5 Nd6 3.Bf3** when White's passed d-pawn and Black's weak pawns ensure White's victory. (Source: 600 Endings, #262)

Chapter 7

The Advanced Openings Test

Instructions for Taking This Test

You are allowed two minutes for each of the positions in this test. In each position, select the one move you think is best. In some positions, more than one move will be accepted as correct. Your score will be based on the total number correct. A full discussion of the scoring is at the end of the test.

***Answer Sheet for Advanced
Openings Test***

Position Number	Best Move	Side to Move
1.		White
2.		Black
3.		White
4.		Black
5.		Black
6.		Black
7.		White
8.		White
9.		White
10.		Black
11.		Black
12.		White
13.		White
14.		White
15.		White
16.		White
17.		White
18.		White
19.		White
20.		Black
21.		Black
22.		Black
23.		White
24.		Black
25.		Black

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Advanced Openings Position 1
White to move

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Advanced Openings Position 2
Black to move

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Advanced Openings Position 3
White to move

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Advanced Openings Position 4
Black to move

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Advanced Openings Position 5
Black to move

241



Advanced Openings Position 6
Black to move

242



Advanced Openings Position 7
White to move

243



Advanced Openings Position 8
White to move

244



Advanced Openings Position 9
White to move

245



Advanced Openings Position 10
Black to move

246



Advanced Openings Position 11
Black to move

247



Advanced Openings Position 12
White to move

248



Advanced Openings Position 13
White to move

249



Advanced Openings Position 14
White to move

250



Advanced Openings Position 15
White to move

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Advanced Openings Position 16
White to move

252



Advanced Openings Position 17
White to move

253



Advanced Openings Position 18
White to move

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Advanced Openings Position 19
White to move

255



Advanced Openings Position 20
Black to move

256



Advanced Openings Position 21
Black to move

257



Advanced Openings Position 22
Black to move

258



Advanced Openings Position 23
White to move

259



Advanced Openings Position 24
Black to move

260



Advanced Openings Position 25
Black to move

Solution Key for the Advanced Openings Test

Position Number	Side to Move	Best Move(s)	Concept(s)	Key
1.	W	6.Bd3	D	
2.	B	8...Bxe4	S/A/TH	D = Development
3.	W	11.Bxf6	T/A/TH	S = Sacrifice
4.	B	13...Be6	S/A/D/TH	A = Attack
5.	B	8...g5	T/TH	T = Tempo
6.	B	10...Qc7	DEF/C	C = Counterplay
7.	W	9.a3 or 9.Rd1	P or P/CP	DEF = Defense
8.	W	13.Bd6	KIC	P = Preventative
9.	W	12.h3	P	KIC = King in Center
10.	B	15...g5	AT/TH	TH = Theory
11.	B	8...Nxd2	P	AT = Attack/Tactics
12.	W	10.Nd2 or 10.0-0-0	P or CR	TBP = Trade Best Piece
13.	W	13.0-0	A/CR	CR = Connect Rooks
14.	W	13.Bf3	CP	CP = Central Pressure
15.	W	11.Nc3	D/T	M = Material
16.	W	7.Bxc6	T/TBP	L = Lever
17.	W	10.d4	O/CP/TH	O = Open Lines
18.	W	11.Ng5	AT	CLR = Clearance
19.	W	13.b4	BC/CP	BC = Big Center
20.	B	6...Be7	D/TH	AB = Active Bishops
21.	B	6...Be6	P/TBP	
22.	B	10...d5	L	
23.	W	11.hxg4	M/TH	
24.	B	4...Qa5+	P	
25.	B	6...Qg5	AT/M	

Discussion: The Advanced Openings Test

The Advanced Openings Test raises the bar to another level. Here, in addition to occasionally testing for theoretical knowledge, we also look for knowledge of the exceptional cases. Examples include moves which may involve breaking the normal rules which we have previously mentioned, as well as occasional sacrifices. Sometimes it may be a move which foregoes normal development for a more immediate purpose. Or it may be an important defensive or prophylactic move. Sometimes it is an important pawn lever or subtle pawn move. In others, a contemporary best known theoretical move.

In all cases these positions demonstrate a deeper theoretical knowledge or a deeper understanding of chess indicative the advanced player. The move which we consider the BEST in each position is the move which is preferred by the strongest players. That is, it is the move which we have found to be most often chosen by the strongest players, with the best statistical results in terms of game outcomes from the given position.

Complete Solutions to the Advanced Openings Test

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Advanced Openings Position 1



Torre (D03)

(1.d4 d5 2.Nf3 Nf6 3.Bg5 e6 4.Nbd2 Be7 5.e3 0-0)

The correct move is **6.Bd3**

6.Bxf6 Bxf6 7.Bd3 is also an interesting try, with the idea of an early pawn advance on the kingside.

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Advanced Openings Position 2



QG Slav Gambit (D17)

(1.d4 d5 2.c4 c6 3.Nf3 Nf6 4.Nc3 dxc4 5.a4 Bf5 6.Ne5 e6 7.f3 Bb4 Now the natural **8.e4**) provokes a sacrificial continuation which is pretty much forced for Black, as merely retreating the bishop just leaves him with an inferior game.

The correct move is: **8...Bxe4** This sacrifice and the continuation has been subjected to extensive analysis in recent years. The main continuation goes:

9.fxe4 Nxe4 10.Bd2 Qxd4 11.Nxe4 Qxe4+ 12.Qe2 Bxd2+ 13.Kxd2 Qd5+ and so on.

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Advanced Openings Position 3



Sicilian Najdorf (B99)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Bg5 e6 7.f4 Be7 8.Qf3 Qc7 9.0-0-0 Nbd7 10.g4 b5) 10...h6 is playable but after 11.Bxf6 Bxf6 (the most common recapture) 12.h4

Play will normally continue: **11.Bxf6** For example 11.Bxf6 Nxf6 (Not 11...Bxf6? which is met by the stock sacrifice 12.Bxb5 axb5 [If 12...Bxd4 13.Bxd7+] 13.Ndxb5 followed by Nxd6+.) 12.g5 Nd7 13.f5 with

complicated play.

Advanced Openings Position 4



Sicilian Dragon (B76)

(1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 g6 6.Be3 Bg7 7.f3 0–0 8.Qd2 Nc6 9.0–0–0 d5 10.exd5 Nxd5 11.Nxc6 bxc6 12.Bd4 e5 13.Be6)

The correct move is **13...Be6!** This sacrifice is both deep and sophisticated. It has evolved from the extensive experience of top players in this line. If 13...Re8 14.Ne4 threatening c4 as well as Nd6. After 13...Be6 if White accepts with 14.Bxf8 then 14...Qxf8 when the motifs include the threat of Bh6, as well as long-term straightforward attacking threats against the White king. It is true that 13...Re8 14.Ne4 Be6 reaches the same position as in the main line but we consider 13...Be6 the best move order, as it gives White a chance to go wrong by accepting the exchange sacrifice.

Advanced Openings Position 5



Benko Gambit (A57)

(1.d4 Nf6 2.c4 c5 3.d5 b5 4.cxb5 a6 5.Nc3 axb5 6.e4 b4 7.Nb5 d6 8.Bf4 This position results from a White attempt at a direct refutation of the heavily analyzed Benko Gambit.)

The correct move is: **8...g5!** The idea of this move is to gain a tempo for ...Nxe4. The immediate 8...Nxe4? is met by 9.Qe2

Advanced Openings Position 6



French Winawer (C18)

(1.e4 e6 2.d4 d5 3.Nc3 Bb4 4.e5 c5 5.a3 Bxc3+ 6.bxc3 Ne7 7.Qg4 0–0 8.Bd3 Nbc6 9.Qh5 Ng6 10.Nf3)

The correct move is **10...Qc7** This is the only way for Black both to defend his kingside and avoid the loss of a pawn after Ng5. For example 10...Qc7 11.Ng5 h6 12.Nxf7 Qxf7 13.Qxg6 Qxg6 (13...Qxf2+?? 14.Kd1 +-) 14.Bxg6 cxd4

Advanced Openings Position 7



Queen's Gambit Declined (D37)

(1.d4 d5 2.c4 e6 3.Nf3 Nf6 4.Nc3 Be7 5.Bf4 0-0 6.e3 c5 7.dxc5 Bxc5 8.Qc2 Nc6)

The correct move is **9.a3** The main line, though **9 Rd1** has also been played (and will be accepted as a correct answer). The move is directed against a possible Black ...Qa5.

Advanced Openings Position 8



Slav / dxc4 (D43)

Radjabov - Anand

Wijk aan Zee, 2008

(1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.Nf3 e6 5.Bg5 h6 6.Bh4 dxc4 7.e4 g5 8.Bg3 b5 9.Be2 Bb7 10.0-0 Nbd7 11.Ne5 Bg7 12.Nxd7 Nxd7)

The correct move is **13.Bd6** This move gives the best play for the sacrificed pawn, preventing castling as well as a possible ...c5 and ...b4 by Black.

After 13.Bd6 the game continued 13...a6 14.Re1 Bf8 15.Bg3 Bg7 16.Bd6 Bf8 17.Bxf8 Rxf8 18.b3 b4 19.Na4 c3 20.a3 a5 21.d5 Qe7 22.d6 Qf6 23.e5

Qf4 24.Bd3 bxa3 25.Qe2 Qd2 26.Rxa3 Qxe2 27.Rxe2 g4 28.Nxc3 Rg8 29.Ne4 Kd8 30.Nd2 c5 31.Bb5 Bd5 32.Nc4 Rg5 33.Rea2 Nxe5 34.Nb6 Rb8 35.Rxa5 Be4 36.Ra7 f6 37.R2a6 Rg8 38.Rc7 Rf8 39.Rxc5 Rf7 40.d7 Nxd7 41.Nxd7 Rxd7 42.Bxd7 Kxd7 43.Rc3 f5 44.Ra7+ Kd6 45.Rh7 Bd5 46.Rxh6 Bxb3 47.h3 gxh3 48.Rhxh3 Bd5 49.Rc2 Ke5 50.f3 Kf6 51.Kf2 Rb4 52.Re2 Kg6 53.Kg3 Ra4 54.Rh4 Ra7 55.Rb2 Kf6 56.Rhb4 Ke5 57.Re2+ Kf6 58.Rd2 Ke5 59.Re2+ Kf6 60.Kf4 Ra3 61.Rd2 Ra5 62.Re2 Ra3 63.Kg3 Ra8 64.Rc2 Ke5 65.Rh4 Rg8+ 66.Kh2 Ra8 67.Re2+ Kf6 68.f4 Ke7 69.Rh7+ Kd6 70.Kg3 Rg8+ 71.Kh3 Rg4 72.g3 Rg8 73.Rd2 Rc8 74.Kh4 Rc3 75.Rg7 Ra3 76.Rc2 Bc6 77.Rc1 Rb3 78.Rg1 Bd5 79.Kg5 Kc5 80.Kf6 Kd4 81.Re1 Rb6 82.Rd7 Rc6 83.Ke7 Ra6 84.Rd6 Ra7+ 85.Kf6 1-0

Advanced Openings Position 9



Queen's Gambit (D27)

Aronian - Morozevich

Moscow 2006

(1.d4 d5 2.Nf3 e6 3.c4 dxc4 4.e3 a6 5.a4 Nf6 6.Bxc4 c5 7.0-0 Nc6 8.Qe2 Be7 9.Rd1 Qc7 10.dxc5 0-0 11.b3 e5)

The correct move is **12.h3!** This move prevents the idea of combining ...e4 with ...Bg4.

After 12.h3 the game continued 12...e4 13.Nd4 Ne5 14.b4 b6 15.Nd2 bxc5 16.bxc5 Bxc5 17.Ba3 Bxa3 18.Rxa3 Ng6 19.Nf1 Qc5 20.Rc3 Qg5 21.Ng3

h5 22.Kh1 Nh4 23.Qc2 Nxc2 24.Kxc2 h4 25.Bxf7+ Kxf7 26.Rc5 Bxh3+ 27.Kxh3 Qg4+ 28.Kg2 hxg3 29.f3 exf3+ 30.Nxf3 Kg8 31.Qa2+ Kh8 32.Rc4 Qf5 33.Rf4 Qh7 34.Rh4 Nh5 35.Rd5 Rf5 36.e4 Nf4+ 37.Kxg3 Rh5 38.Rxf4 Rh3+ 39.Kg4 Re8 40.Rdf5 Rg8 41.Qxg8+ Qxg8 42.Rf8 1–0 Aronian,L (2741)-Morozevich,A (2747)/Moscow 2006

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Advanced Openings Position 10



Ruy Lopez, Marshall Gambit (C89)

Svidler - Aronian

Morelia/Linares, 2007

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.O–O Be7 6.Re1 b5 7.Bb3 0–0 8.c3 d5 9.exd5 Nxd5 10.Nxe5 Nxe5 11.Rxe5 c6 12.d4 Bd6 13.Re1 Qh4 14.g3 Qh3 15.Re4)

Correct is **15...g5** Part of the Marshall Attack theory that every Ruy Lopez player must know. After this move chances are fairly balanced between attack and defense. A typical high-level continuation was 16.Qf1 (*If now*

16.Bxg5 Qf5 wins.) 16...Qh5 17.Nd2 Bf5 18.f3 Nf6 19.Qg2 Qg6 20.Re3 Rae8 21.Ne4 Nxe4 22.g4 Ng3 23.hxg3 Bd3 24.Bd2 Rxe3 25.Bxe3 Re8 26.Re1 c5 27.dxc5 Bxc5 28.Qd2 Bxe3+ 29.Rxe3 Qb6 30.Kf2 Rd8 31.Qe1 Re8 32.Qd2 Rd8 33.Bc2 Bg6 34.Qe2 Re8 35.Bxg6 hxg6 36.Qd2 Rd8 37.Qe2 Re8 38.Qd2 Rd8 ½–½ Svidler,P (2728)-Aronian,L (2744)/Morelia/Linares 2007.

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Advanced Openings Position 11



Kopec - Swaminathan (D00)

Queens CC Ch (1), 2010

(1.d4 d5 2.Nf3 c6 3.Bg5 Qb6 4.b3 h6 5.Bf4 Bf5 6.e3 Nf6 7.Bd3 Ne4 8.Nfd2) and now the correct move would have been

8...Nxd2 For example: 8...Nxd2 9.Qxd2 (or 9.Bxf5 Nxb1 10.Rxb1 e6 11.Bd3 Bb4+) 9...Bxd3 10.Qxd3 e6 when Black stands well. The move played in the game was 8...e6? when after 9.Bxe4 dxe4 10.O–O White already had a significant advantage. See Intermediate Openings Position Test #19.

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Advanced Openings Position 12



Queen's Gambit Declined (D37)

(1.d4 d5 2.c4 e6 3.Nf3 Nf6 4.Nc3 Be7 5.Bf4 0-0 6.e3 c5 7.dxc5 Bxc5 8.Qc2 Nc6 9.a3 Qa5)

10.Nd2 An example from this main line: 10...Be7 11.Bg3 Bd7 12.Be2 Qb6 13.b4 d4 14.Na4 Qd8 15.e4 Be8 16.Nb2 Nd7 17.Nd3 Bh4 18.c5 Bxg3 19.hxg3 Nde5 20.f4 Nxd3+ 21.Bxd3 h6 22.Nc4 Rc8 23.Nd6 Rc7 24.e5 f6 25.Qe2 a6 26.Qe4 f5 27.Qe2 Re7 28.g4 fxg4 29.Qxg4 Kh8 30.g3 Bf7 31.Ra2 Bg8 32.Rah2 1-0 Sokolov,I (2684)-Short,N (2684)/Bled 2002

The more aggressive **10.0-0-0** is also playable (and is also accepted as a correct answer) when a good example of success for White's strategy is the following encounter: 10...Be7 11.h4 dxc4 (A better outcome for Black occurred after 11...Rd8 12.g4 Bd7 13.Kb1 dxc4 14.Bxc4 Rac8 15.g5 Nh5 16.Bd6 g6 17.Be2 Bxd6 18.Rxd6 Ne7 19.Qb3 Bc6 20.Rxd8+ Rxd8 21.Rd1 Qf5+ 22.Ka1 Rf8 23.e4 Qc5 24.Qb4 Qxb4 25.axb4 Nf4 26.Bf1 a6 27.Ne5 Rc8 28.Ka2 Kg7 29.Kb3 Be8 30.Ng4 Ng8 31.Rd4 Bc6 32.b5 axb5 33.Bxb5 h5 34.Bxc6 Rxc6 35.Ne5 Rc7 36.Kb4 Ne7 37.Nb5 Rc2 38.Rd7 Nc6+ 39.Nxc6 bxc6 40.Nd6 Nd3+ 41.Ka5 Ne5 42.Rd8 Nc4+ 43.Nxc4 ½-½ Kasparov,G (2805)-Ehlvest,J (2615)/Novgorod 1995) 12.Bxc4 b6 13.Ng5 Ba6 14.Nce4 g6 15.Nxf6+ Bxf6 16.Ne4 Be7 17.Bxa6 Qxa6 18.Kb1 Qb7 19.h5 Rac8 20.hxg6 Nb4 21.gxh7+ Kh8 22.Be5+ f6 23.Nxf6 Bxf6 24.Bxf6+ 1-0 Kasparov,G (2805)-Vaganian,R (2640)/Novgorod 1995

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Advanced Openings Position 13



French Defense, Winnawer (C19)

Kopec - Byrne, R

Eastern Speed Ch. (12), 1971

(1.e4 e6 2.d4 d5 3.Nc3 Bb4 4.e5 Ne7 5.a3 Bxc3+ 6.bxc3 c5 7.a4 Qc7 8.Nf3 Nd7 9.Bd3 c4 10.Be2 f6 11.exf6 Nxf6 12.Ne5 Ne4)

The correct move is **13.0-0!** The game continuation was 13...Nxc3 14.Bh5+ g6 15.Qf3 gxh5 16.Qxh5+ Ng6 17.Nxg6 Qf7 18.Qe5 Rg8 19.Nf4 1/2-1/2.

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Advanced Openings Position 14



Torre Attack, (D03)

Kopec - Betanelli

Manhattan Open, 2011

(1.d4 d5 2.Nf3 Nf6 3.Bg5 Ne4 4.Bf4 c5 5.e3 Nc6 6.c3 Qb6 7.Qb3 c4 8.Qxb6 axb6 9.Nbd2 Nxd2 10.Nxd2 b5 11.e4 e6 12.Be2 Be7)

The correct move is **13.Bf3!** when play might have continued: 13...g5 If 13...dxe4 14.Nxe4± 14.Bc7 14.Bg3 f5 (14...h5 15.exd5) 15.exf5 exf5 16.h4 f4 17.Bh2 Be6 18.hxg5 Bxg5 19.Bh5+ Kd7 20.Nf3 Bh6 with an unclear position in which both sides have their chances 14...Kd7 15.Bg3 f5 16.exd5 exd5

17.h4 If 17.Be5 Nxe5 18.dxe5 Ke6 17...f4 18.Bh2 Kd6 19.hxg5 Bxg5 20.g3 Bf5 21.gxf4 Bf6 22.Nf1 when Black does not have enough compensation for the pawn. White too must be careful. The computer points out 22.Bh5? Nxd4! 23.cxd4 Bxd4 and White is in serious trouble.

The game continuation was 13.h4? 0–0 and now 14.Bf3 Rd8 was just in time. 15.Bc7 Rd7 16.Bg3 b4

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Advanced Openings Position 15

Kopec - Swaminathan (D00)

Queens CC Ch (1), 2010

From Kopec-Swaminathan. (See test position 11 for the initial moves.)

After the inferior 10...c5? (instead of the correct 10...Nd7) White plays:

11.Nc3 with rapid development and many threats, including Nxe4, Nc4 and d5.

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Advanced Openings Position 16



Sicilian, Rossolimo Variation, (B30)

Shirov - Van Wely

Germany 2003

(1.e4 c5 2.Nf3 Nc6 3.Nc3 Nf6 4.Bb5 Qc7 5.0–0 e6?! Better is 5...Nd4 6.Re1 Ng4)

The correct move is **7.Bxc6** with the idea of following with e5, d4 etc. The Shirov - Van Wely game went: 7...bxc6 8.e5 f6 9.d4 cxd4 10.Qxd4 Nxe5

11.Nxe5 fxe5 12.Rxe5 Be7 13.Bg5 Bd6 14.Bf4! when White had a powerful attack and won in 25 moves: 14...c5 15.Qe3 a6 16.Nd5 Qc6 17.Rg5 h6 18.Bxd6 hxg5 19.Rd1 Rh6 20.Ne7 Qa4 21.Qf3 Bb7 22.Qxb7 Rd8 23.Ng8 Rh8 24.Qf3 Rxb7 25.Qh5+ 1–0

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Advanced Openings Position 17



Ruy Lopez Exchange (C68)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Bxc6 dxc6 5.0-0 Bg4 6.h3 h5 7.d3 Qf6 8.Nbd2 Ne7 9.Re1 Ng6)

The correct move is **10.d4** 10.hxg4? hxg4 11.Nh2 Bc5 This is the main move for Black here. 12.Nxg4 Qh4 wins for Black.

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Advanced Openings Position 18



Ruy Lopez, Steinitz Variation, (C72)

Shirov - Sokolov

Wijk Aan Zee, 2004

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 d6 5.0-0 Bg4 6.h3 h5 7.Bxc6+ bxc6 8.d4 Qf6 9.Nbd2 Be6 10.Nb3 Qg6)

The correct move is **11.Ng5!** After 11.Ng5! the game continued: 11...Bd7 12.dxe5 dxe5 13.f4 exf4 14.Bxf4 Be7 15.Qd2 Rd8 16.Nxf7 Qxf7 17.Bxc7 Qe6 18.Bxd8 Bxd8 19.Kh1 Nf6 20.Nc5 Qe7 21.Rad1 Bc8 22.e5 Nd5 23.Ne4 Qxe5 24.Rde1 Be7 25.c4 Bb4 26.Nc3 1-0

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Advanced Openings Position 19

Ruy Lopez Exchange (C68)

Radjabov - Shirov

Turin, 2006

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Bxc6 dxc6 5.0-0 Bg4 6.h3 h5 7.d3 Qf6 8.Nbd2 Ne7 9.Re1 Be6 10.Nb3 Bxb3 11.axb3 c5 12.c3 Nc6)

The correct move is **13.b4!** This pawn sacrifice enables White to get a rolling, massive center, which eventually led to his victory. The game continued: 13...cxb4 14.d4 exd4

The plausible looking 14...Bd6 is met by the surprising (and deadly) 15.c4! a move easily overlooked by humans but found immediately by computers. 14...Qd6 was probably the best try to shore up the center. 15.Bg5 Qd6 16.cxd4 Be7 17.d5 Ne5 18.Bf4 f6 19.Nd4 Kf7 20.Qb3 g6 21.Rad1 Kg7 22.Bh2 Qb6 23.Kh1 a5 24.f4 a4 25.Qc2 b3 26.Qe2 Nd7 27.e5 f5 28.Bg1 Qa5 29.Qc4 Bh4 30.Re3 Rac8 31.Rc3 Rhe8 32.Ne6+ Kh6 33.Nxc7 Bd8 34.d6 Bxc7 35.dxc7 Re7 36.Rd6 a3 37.Rg3 Nf8 38.Qg8 Rg7 39.Qh8+ Rh7 40.Qxf8+ 1-0

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Advanced Openings Position 20



Ruy Lopez, Center Variation (C84)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.d4 exd4 6.0–0)

The correct move is **6...Be7** Knowing this move is mandatory, as all other moves are much worse.

Moves like 6...b5, 6...d6 and 6...Bc5 all lead to horrible positions for Black. After 6...Be7 Black equalizes without much trouble. For example: 7.e5 (Or

7.Re1 d6 8.Bxc6+ bxc6 9.Nxd4 Bd7 10.Nc3 0–0 11.Qf3 Re8 12.Nf5 Bxf5 13.Qxf5 Qd7 14.Qf3 Qg4 15.Qd3 Bf8 16.h3 Qe6 17.Bf4 Nd7 18.b3 g6 19.Rad1 Bg7 20.Na4 Nf6 21.Nc3 Nd7 22.Na4 Nf6 23.Nc3 Nd7 24.Na4 ½–½ Fressinet,L (2654)-Bacrot,E (2695)/Ajaccio 2007) 7...Ne4 8.Nxd4 0–0 9.Nf5 d5 10.exd6 Bxf5 11.dxe7 Nxe7 12.Bb3 Nc5 13.Nc3 Nxb3 14.cxb3 Qxd1 15.Rxd1 Rad8 16.Bf4 ½–½ Kramnik,V (2777)-Adams,M (2725)/Cap d'Agde 2003

6...Nxe4 leads to the so-called "Riga Variation." After 7.Re1 d5 8.Nxd4 Bd6 9.Nxc6 Bxh2+ 10.Kh1 Qh4 11.Rxe4+ dxe4 12.Qd8+ Qxd8 13.Nxd8+ Kxd8 14.Kxh2 an ending arises in which most theoreticians consider White to have a significant advantage.

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Advanced Openings Position 21



Queen's Gambit Accepted (D20)

(1.d4 d5 2.c4 dxc4 3.e4 e5 4.Nf3 exd4 5.Bxc4 Nc6 6.0–0)

The correct move is **6...Be6** White had been threatening Qb3 and this move is the best defense. After 6...Be6 the most ambitious try is 7.Bxe6 fxe6 8.Qb3 Qd7 9.Qxb7 but after 9...Rb8 10.Qa6 Nf6 11.Nbd2 Bb4 Black's active pieces are considered to give him a fine game.

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Advanced Openings Position 22



King's Indian Defense (E92)

Karpov - Kasparov

World Ch 35th-KK5

Lyon/New York (11)1990

(1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.Nf3 0–0 6.Be2 e5 7.Be3 exd4 8.Nxd4 Re8 9.f3 c6 10.Qd2)

The correct move is **10...d5** This a typical central break to avoid a passive position whereby Black seeks immediate activity even at the cost of material. The game continued:

11.exd5 cxd5 12.0-0 Nc6 13.c5 Rxe3!? 14.Qxe3 Qf8 15.Nxc6 bxc6© 16.Kh1 Rb8 17.Na4 Rb4 18.b3 Be6 19.Nb2 Nh5 20.Nd3 Rh4 21.Qf2 Qe7 22.g4 Bd4 23.Qxd4 Rxh2+ 24.Kxh2 Qh4+ 1/2 - 1/2.

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Advanced Openings Position 23

Ruy Lopez Exchange (C68)

(1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Bxc6 dxc6 5.0-0 Bg4 6.h3 h5 7.d3 Qf6 8.Nbd2 Ne7 9.Re1 Ng6 10.d4 Bd6)

The correct move is **11.hxg4** This is the correct point for White to accept the sacrificed piece. After **11...hxg4 12.Nh2 Rxh2 13.Qxg4** Not **13.Kxh2 Qxf2 14.Qxg4 Ke7** when Black wins. **13...Qh4 14.Qxh4 Rxh4 15.Nf3 Rh5 16.Be3 0-0-0** and White retains a slight advantage thanks to his kingside

pawn majority.

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Advanced Openings Position 24



Trompowsky (A45)

(1.d4 Nf6 2.Bg5 Ne4 3.Bf4 c5 4.f3)

The correct move is **4...Qa5+** Black plays this check in order to force White to play **5.c3**, making **Nc3** impossible. Play will likely continue: **5.c3 Nf6 6.d5**

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Advanced Openings Position 25



Sicilian Rossolimo Variation (B30)

(1.e4 c5 2.Nf3 Nc6 3.Bb5 e6 4.Nc3 Nd4 5.Nxd4? cxd4 6.Ne2)

The correct move is **6...Qg5** with advantage to Black. The point is that if **7.Nxd4? Qc5 8.c3 e5** wins a piece.

Chapter 8

The Camp Test 1995

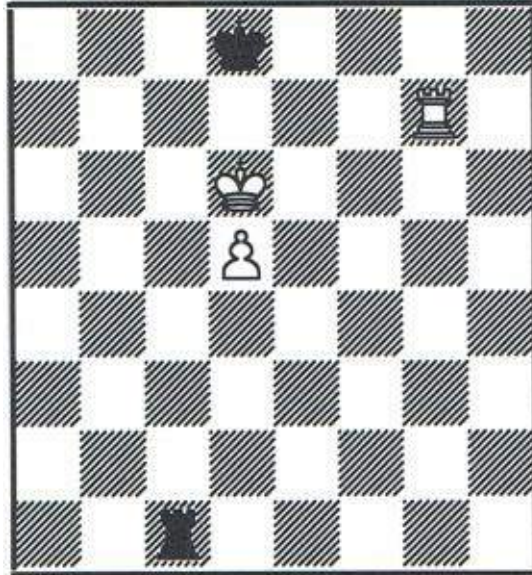
Instructions for Taking This Test

This test should be taken in the exact same way as the previous, Bratko–Kopec and New Position tests. You are allowed a total of two minutes for each of the following positions to select your preferred move(s) and to write down up to four choices in order of preference. Write your first choice in the column labeled “Preferred Move”. Write your secondary choices in the columns labeled “2nd Choice”, “3rd Choice”, “4th Choice”. You will receive partial credit for correct move(s) selections in any column. If your first choice is the correct move, you receive a full point credit, if your second choice is correct 1/2 point credit, if your third choice is correct it gives 1/3 point credit, and a fourth choice correct gives 1/4 point credit.

Answer Sheet for Camp Test 1995

Position Number	Preferred Choice	2nd Choice	3rd Choice	4th Choice	Side to Move
1.					Black
2.					White
3.					Black
4.					White
5.					White
6.					White
7.					Black
8.					White
9.					White
10.					Black
11.					White
12.					Black
13.					White
14.					White
15.					White
16.					Black
17.					Black
18.					White
19.					Black
20.					White
21.					White
22.					Black
23.					Black
24.					White

261



Camp Test Position 1

Black to move

262



Camp Test Position 2

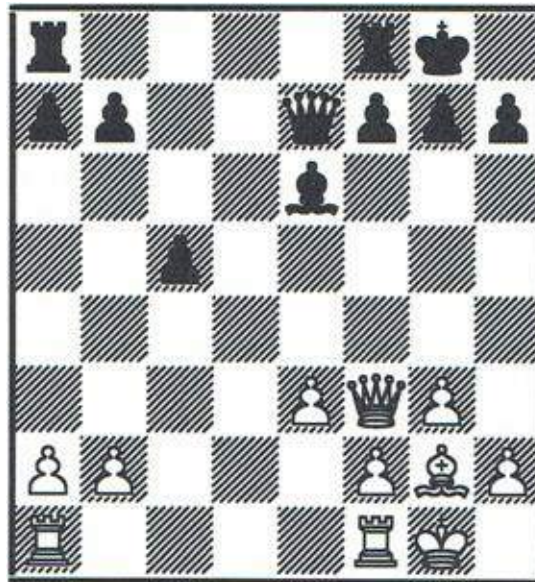
White to move

263



Camp Test Position 3
Black to move

264



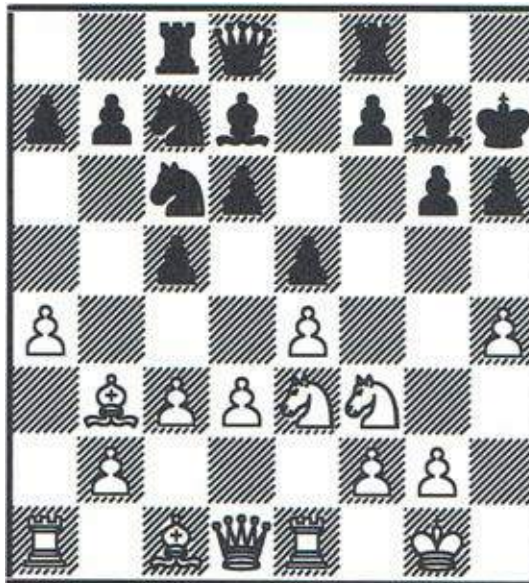
Camp Test Position 4
White to move

265



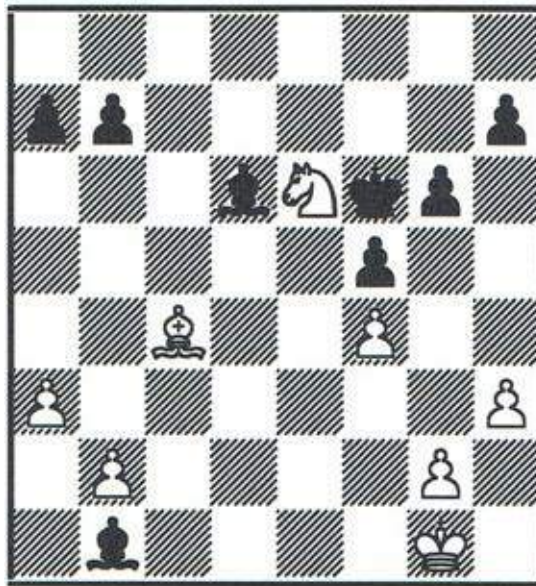
Camp Test Position 5
White to move

266



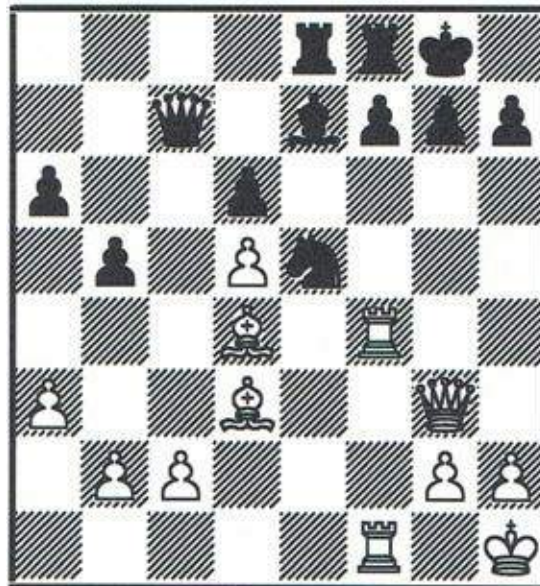
Camp Test Position 6
White to move

267



Camp Test Position 7
Black to move

268



Camp Test Position 8
White to move

269



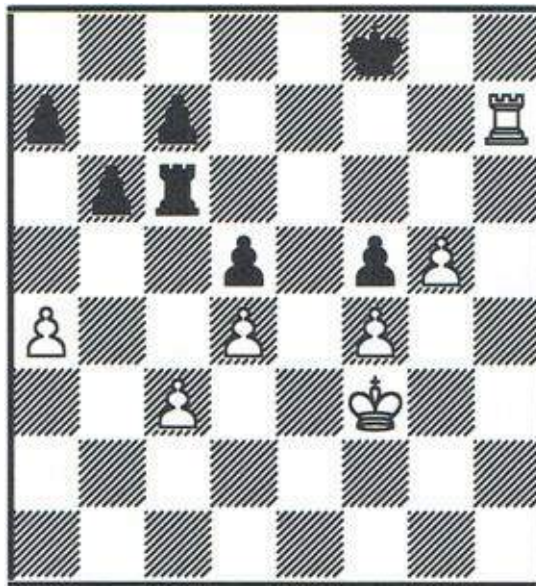
Camp Test Position 9
White to move

270



Camp Test Position 10
Black to move

271



Camp Test Position 11
White to move

272



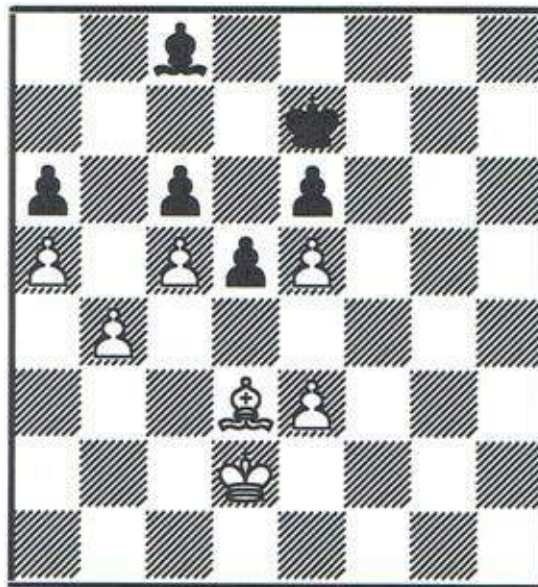
Camp Test Position 12
Black to move

273



Camp Test Position 13
White to move

274



Camp Test Position 14
White to move

275



Camp Test Position 15
White to move

276



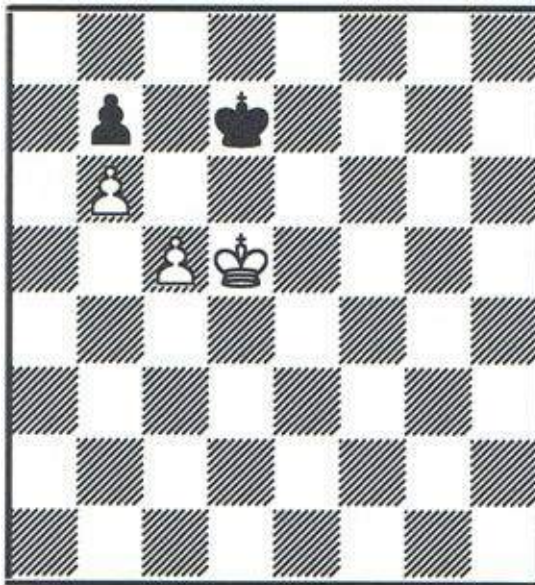
Camp Test Position 16
Black to move

277



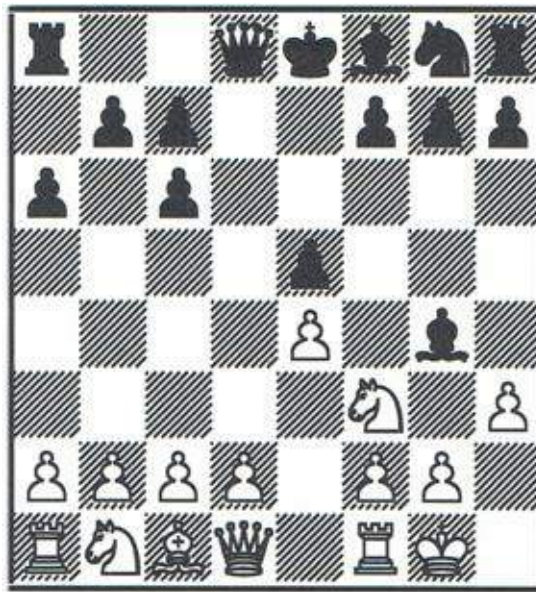
Camp Test Position 17
Black to move

278



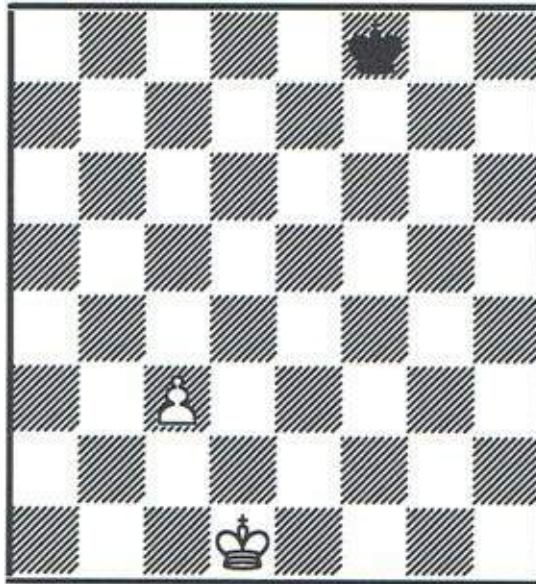
Camp Test Position 18
White to move

279



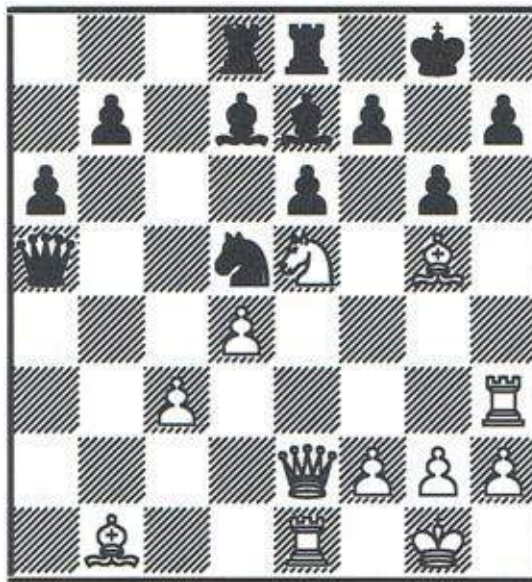
Camp Test Position 19
Black to move

280



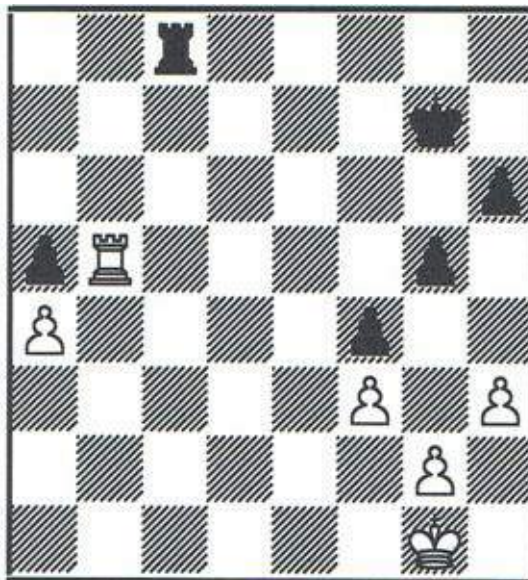
Camp Test Position 20
White to move

281



Camp Test Position 21
White to move

282



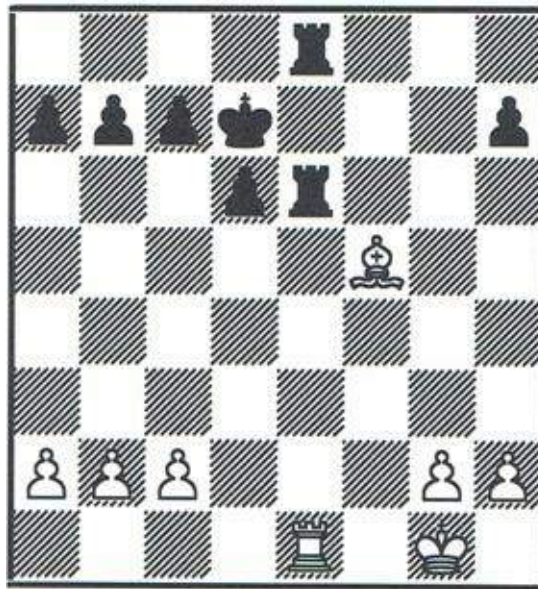
Camp Test Position 22
Black to move

283



Camp Test Position 23
Black to move

284



Camp Test Position 24
White to move

Solution Key to Camp Test 1995

Position Number	Side to Move	Position Type	Phase of Game	Level of Difficulty	Solution(s)
1	B	Tactical	E	4	1...Kc8
2	W	Lever	M	3	1.h5
3	B	Lever	O	2	1...c5
4	W	Lever	M	2	1.e4
5	W	Tactical	O	4	1.Nxe6
6	W	Lever	M	2	1.h5
7	B	Tactical	E	3	1...b5
8	W	Tactical	M	3	1.Bxh7+
9	W	Tactical	O	4	1.Nc3
10	B	Tactical	M	2	1...Rc5
11	W	Tactical	E	3	1.Kg3
12	B	Tactical	O	3	1...Bxb5
13	W	Tactical	M	3	1.Nc5
14	W	Lever	E	2	1.Kc3
15	W	Tactical	O	3	1.Qa4+
16	B	Lever	M	4	1...g6
17	B	Tactical	O	3	1...Ng6
18	W	Tactical	E	2	1.Ke5
19	B	Tactical	O	2	1...h5
20	W	Tactical	E	3	1.Kc2
21	W	Tactical	M	4	1.Nxf7 or 1.Rxh7
22	B	Tactical	E	3	1...Rc1+, 1...Rc2, 1... Rc3
23	B	Tactical	O	3	1...Qc7
24	W	Lever	E	4	1.c4
				Max=72	

Discussion: The Camp Test 1995

This is intended to be the most difficult comprehensive test that we are presenting. We believe that it represents a good cross-section of the type of knowledge which the strongest players today must be able to access. The test was developed for Kopec's Chess Camp at the Pomfret School in the summer of 1995 where it was tested on a small group of subjects ranging from Class B to Expert. Results are reported in Appendix 2. This chapter represents an extension of the ideas developed in the earlier BK and New Positions tests. Up to now the main concepts that have been represented in those tests are levers and tactics. All positions fell into one of these two categories. Now we extend upon these two general ideas and add the notion of the three phases of play: openings, middlegames and endings. The examples represent a quantum leap in difficulty because of the breadth of topics tested and the very nature of the positions themselves.

The opening positions presented are sharp, theoretical and very specific. That is, you must have specific knowledge of the openings from which these positions have been derived. Finding the correct move in a given position essentially means knowing the opening sequence of moves which led to the position as well as the unique necessary move in the position. These positions are sharp like a razor's edge and if the proper move is not found, immediate bloodshed can result. To some degree it is arguable that finding the indicated move in these difficult positions is a matter of chess erudition. As we have discussed with regard to the Bratko–Kopec Test, the amount of chess erudition (or knowledge and experience) which a person has will correlate to his/her understanding and ability to find the correct or best moves in a position. The opening positions in this test are by and large based on theoretical knowledge which has been accrued during the past ten to twenty years. More than twenty years ago, these positions were hardly known—at least in terms of the necessary best move.

To give you an idea of the kind of advances that have taken place in computer chess, in the previous edition of this book (2003) we had this passage:

"For computer programs the opening positions are also challenging in that they require a priori opening book library inclusion. Finding moves like ...c5 in position 263, Nc3 in position 269, ... Bxb5 in position 272, and 1.Qa4+ Bd7 2.Qb3 in position 275 would not come automatically to them. Likewise computer programs would need to have considerable theoretical knowledge to play ...h5 in position 279 and ...Qc7 (a long piece sacrifice in the Nimzo-Indian) in position 283."

Today (2013), the latest computer program (Houdini 3.0) finds most of these moves instantly. In the entire 24 position set, it fails in only two of the opening positions: it prefers 1...Nf5 in position 277 (French Winawer) over the correct 1...Ng6 and, in position 279 (Ruy Lopez Exchange), it will not consider playing 1...h5. This is understandable when you consider that these positions all require very long term knowledge of a general nature.

For human players however, the opening positions are generally hard, specific, sharp, and challenging. As a whole they represent a quantum increase in difficulty in this test set.

The eight middlegame positions involve all kinds of original implementations of the notions of levers and diverse tactical motifs. Some of the concepts illustrated are: the attacking lever, central lever for counterplay against a wing attack, use of pawn majorities, exploiting overloaded pieces, original forms of well known attacking themes, sweeping, sealing, "intermezzo" checks, and more.

Finally the endgame positions test a wide range of themes including very specific rook and pawn ending knowledge, conversion of material advantages, triangulation in king and pawn endings, and long-range planning.

Scoring

Scoring for the CampTest 1995 is done in the same way as for the previous two mixed-theme test sets except that now there is one more parameter to measure: performance in the different phases of play; namely openings, middlegames, and endings. That is why we have deliberately selected eight positions from each phase of play. Thus this test gives scores based on six measures: levers, tactics, overall score, openings, middlegames, endings and level of difficulty. Note that among these twenty-four positions there are only seven classified as lever positions.

Camptest Position 1



Lasker Variant

This position is a variant on a composition of Emmanuel Lasker (1925), in which the WR is on h7 in the starting position.

1...Kc8

1...Ke8? 2.Re7+ Kd8 3.Rh7! reaches the starting position from the Lasker composition (Basic Chess Endings #626 - or #305 in the old edition). With the White rook on the h-file, Black cannot get "checking distance" on that side. 3...Kc8 (3...Ke8 4.Rh8+ Kf7 5.Kd7 Ra1 6.d6 Ra7+ 7.Kc6 Ra6+ 8.Kc7 Ra7+ 9.Kb6 Rd7 10.Kc6 and wins.) 4.Rh8+ Kb7 5.Kd7 Rg1 (5...Rc7+ 6.Ke6 Rg7 7.d6) 6.d6 Rg7+ (6...Rg2 7.Kd8) 7.Ke6 Rg6+ 8.Ke7 Rg7+ 9.Kf6 Rd7 10.Ke6 Rg7 11.d7 and White wins.

2.Rg8+ Or 2.Rh7 Rg1 3.Ke6 Re1+ 4.Kd6 Rg1 also fails to make progress.

2...Kb7 3.Kd7 Rh1! 4.Rg7 If 4.d6 Rh7+ 5.Ke6 Rh6+ 6.Ke7 Rh7+ and Black draws because he has "checking distance" between his rook and the White pawn. **4...Rh8 5.d6 Kb6** = For example **6.Ke7 Kc6** with the idea that Black maintains access to the c7 square in case the pawn advances to d7. There are still some winning attempts for White after this point (which are beyond the scope of this test) but Black draws. (Source: Basic Chess Endings #627 - or #305a in the old edition.)

Camptest Position 2



Timman - Miles

Netherlands vs. England, 1977

Attacking with pawns. **1.h5!! exd3 2.h6!** ± with a big advantage due to his superior pawn structure and due to Black's weakened kingside dark squares. (Source: *The Best Games of the Young Grandmasters* (now *World Title Contenders and Their Styles*), p. 50)



Camptest Position 3

Pirc Austrian w. h4 (B09)

After 1.e4 d6 2.d4 Nf6 3.Nc3 g6 4.f4 Bg7 5.Nf3 0-0 6.e5 Nfd7 7.h4 it is important that Black respond to White's wing assault with an immediate counterattack in the center. **1...c5**

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Camptest Position 4



Marshall - Capablanca

New York, 1909

Classic planning example. Marshall had White and did not realize his correct plan for play which was **1.e4** -- followed by **2.Qe3** -- **3.f4** and kingside pawn mobilization. Instead he lost an endgame which has become a hallmark example of how to win with an outside majority.

(Source: Lasker's Manual)

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Camptest Position 5



French Defense, Winawer (C16)- Qd7 line (IM M.Valvo)

(1.e4 e6 2.d4 d5 3.Nc3 Bb4 4.e5 Qd7 5.a3 Bxc3+ 6.bxc3 b6 7.Qg4 f5 8.Qg3 Ba6 9.Bxa6 Nxa6 10.Ne2 Nb8 11.Nf4 Nc6 and Black's queen is overloaded.)

Thus: **1.Nxe6** A series of 1989 articles by the late IM Mike Valvo, IM John Watson and GM Ian Rogers in *Inside Chess* led to the conclusion that **1...Qxe6 2.Qxg7 Qg6 3.Qxh8** favors White since Black is unable to trap the White queen.

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Camptest Position 6

Kopec - Bellin
Edinburgh Congress, 1981

White probes the light squares. **1.h5!** This lever pressured Black into playing ...g5 and weakening the critical kingside light squares. If **1...gxh5** **2.g3** planning Kg2 (idea Rh1) or Nh4. Now if **2...Bg4** **3.Kg2** followed by Rh1, Nxc4 and Nh4 etc.

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Camptest Position 7

Bessor - Hort
Halle, 1966

Excellent example of decoy and undermining using the power of the two bishops. **1...b5** **2.Bb3** If 2.Bd5 Be4 3.Bb3 Bd3 transposes. **2...Bd3!** with the idea of Bc4! when the White knight will be left stranded. A variation could now go: **3.g3 Bc4** **4.Bxc4 bxc4** **5.Nd8** **5.Ng5 Bxa3** –+ **5...Bxa3!** –+ (Source: The Best Move, #49)

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Camptest Position 8



Bednarski - Adamski
Slupsk, 1978

A surprise tactical blow, with an original form of the Bxh7 sacrifice: **1.Bxh7+!** **Kxh7** **2.Rxf7 Rxf7** **3.Rxf7** and Black has no defense. (Source: Informant 26, Combination #11)

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Camptest Position 9



Ruy Lopez Schliemann (C63)

[NM Hal Terrie]

(This position arises after 1.e4 e5 2.Nf3 Nc6 3.Bb5 f5 4.d4 fxe4 5.Nxe5 Nxe5 6.dxe5 c6.)

White sacrifices a piece for a strong initiative. **1.Nc3!** Any other move allows Black to achieve a large advantage. For example 1.Bc4 Qa5+ (the point) followed by ...Qxe5 and soon by ...d5.; The best retreat is 1.Be2 Qa5+ 2.Bd2 Qxe5 3.Bh5+ Kd8 (*Not 3...g6?? 4.Bc3*) but Black's center is still overwhelming. **1...cxb5 2.Nxe4 d5 3.exd6 Nf6** when White has tried a

number of different moves. Here is an overview of the many complications which now ensue.

(A) One of the most common lines has been **4.Bg5** 4...Qa5+ 5.Nc3 b4 6.Bxf6 gxf6 7.Nd5 b3+ 8.c3 when a number of games have continued 8...Be6 9.Nc7+ Kd7 10.0-0 Bxd6 11.Nxe6 Qe5! 12.Nf4! Qxf4 13.g3 with continuing threats against Black's still exposed king.

(B) Even **4.0-0** has been tried : 4...Nxe4 5.Qh5+ g6 6.Qe5+ (or the more recent attempt 6.Qxb5+ Qd7 and only now 7.Qe5+)

(C) **4.Qd4** is the other major move here (in addition to Bg5). Black has tried various responses.

(c1) 4...Nxe4 5.Qxe4+ Kf7 6.Qd5+ (6.Bf4 Qe8 7.Be5 Bxd6 8.Qd5+ Qe6 9.Qxd6 Qxd6 10.Bxd6 Re8+ 11.Kf1 Be6!) 6...Kg6 (*After 6...Be6 7.Qxb7+ Black has fared very badly in practice.*) 7.g4!? (threatening Qh5+) with complications. (7.Bf4 has been tried too.)

(c2) 4...Qd7!? 5.0-0 Nxe4 6.Re1!

(c3) The crazy looking 4...Be7 is actually one of the better tries.

(c3a) Now 5.Bg5 Bf5 6.0-0-0 Bxe4 7.Rhe1 looks menacing but simplifies to a draw after 7...Qxd6 8.Qxd6 Bxd6 9.Rxd6 0-0 10.Bxf6 Bxg2 11.Rg1 Rxf6 12.Rxf6 gxf6 13.Rxg2+ Kf7 14.Rg3 Rc8 15.Kd2 ½-½ (21) Khalifman,A (2485)-Glek,I (2400) Leningrad 1985

(c3b) or 5.Bf4 0-0 6.Be5 Nxe4 7.dxe7 Qxe7 8.Qxe4 Bf5 9.Qd5+ Be6 10.Qxb5 White is up two pawns now but the activity of the Black pieces is tremendous: 10...Rac8 11.Qe2 Bg4 12.f3 Rfe8 13.0-0 Qxe5 14.Qxe5 Rxe5 15.fxg4 Rxc2 16.Rac1 Ree2 17.Rxc2 Rxc2 18.Rb1 a5 ½-½ (24) Szalanczy,E (2400)-Horvath,G (2410) Hungary 1989;

(c3c) 5.Qe5? Nxe4 6.Qh5+ g6 7.Qxb5+ Qd7 8.Qxd7+ (8.Qe5 0-0 9.dxe7 Re8-+) 8...Bxd7 9.dxe7 Kxe7 with advantage to Black.

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Camptest Position 10

Ree - Jansa

Cracow, 1964

Rook lift to get all your pieces into the attack. **1...Rc5! 2.Rf1 Ne3!!** -+ (Source: The Best Move, #330)

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Camptest Position 11



Capablanca - Tartakower
New York, 1924

The classic example of the active king in rook and pawn endings. **1.Kg3 Rxc3+ 2.Kh4 Rf3**

2...Rc1 (a better try according to Fine) 3.g6 (better is 3.Kh5) and now a sample line is 3...Rh1+ (3...Rg1 4.Kh5) 4.Kg5 Rxh7 5.gxh7 Kg7 6.Kxf5 Kxh7 7.Ke5 c6 8.Kd6 b5 9.axb5 cxb5 10.Kxd5 b4 11.Kc4 a5 12.d5 Kg6

13.d6 Kf6 14.f5 Kf7 =

3.g6 Rxf4+ 4.Kg5 Re4 5.Kf6! Kg8 6.Rg7+ Kh8 7.Rxc7 Re8 8.Kxf5 Re4 9.Kf6 Rf4+ 10.Ke5 Rg4 11.g7+ Kg8 12.Rxa7 Rg1 13.Kxd5 +- We consider this example important enough that it also appears as Position #8 in the Rook and Pawn Test.

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Camptest Position 12



Pirc Austrian (B09) early ...c5

In this sharp variation of the Pirc-Austrian Attack, stemming from 1.e4 d6 2.d4 Nf6 3.Nc3 g6 4.f4 Bg7 5.Nf3 c5 6.Bb5+ Bd7 7.e5 Ng4 8.e6 fxe6 9.Ng5, Black has the surprising draw with: **1...Bxb5!!** e.g. **2.Nxe6 Bxd4 3.Nxd8 Bf2+** and Black has a perpetual check.

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Camptest Position 13

Pritchett - Georghiu
London, 1980



Fueling the attack. **1.Nc5! Bc8** (Not 1...Qxc5?? 2.Qf7+) and play concluded **2.Qf3 Nb6** (the c5 knight and the e-pawn are still immune) **3.e6! Rd8** If 3...Bxe6 4.Qxf8+! etc.; If 3...Nxe6 4.Bxh7+! wins. **4.Bg5 1-0** (Source: Mastering Chess, p. 105)

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Camptest Position 14



Lasker - Bogalyrshuk
Moscow, 1935

A famous position which exemplifies the idea of "sealing" (Knoch). **1.Kc3** with the idea of 2.Kd4 followed by 3.e4 and White wins. Instead, after 1.e4?? d4 White has no way to break through. Refer to Lasker's Manual or Pawn Power for more details about the ensuing bishop ending.

For example: **1...Bd7 2.Kd4 Bc8 3.e4 dxe4** If 3...Bb7 4.exd5 exd5 5.Bf5 Kd8 6.Ke3 Ke7 7.Kf4 Kd8 8.Kg5 Ke7 9.Bg4 Kf7 10.Bd7 Ke7 11.e6 **4.Bxe4 Bb7** If

4...Kd7 5.Ke3, heading for g5; Or 4...Bd7 5.Ke3 Ke8 6.Kf4 Kf8 7.Kg5 Kg7 8.Bf3 Kf7 (8...Be8 9.Be2 picks off the a6-pawn.) 9.Kh6 Ke8 10.Kg7 Ke7 11.Be4 Ke8 12.Kf6 Kd8 13.Bd3 Bc8 14.Bc4 and wins. **5.Ke3 Kd7 6.Kf4 Ke8 7.Kg5 Kf7 8.Kh6 Ba8 9.b5! axb5 10.a6** and White wins because Black is now in zugzwang. (Source: Pawn Power in Chess, Diagram 145)

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Camptest Position 15



Modern Benoni, (A61) Portisch - Fischer
Palma de Mallorca, 1970

(This Benoni position occurred after 1.d4 Nf6 2.c4 e6 3.Nf3 c5 4.d5 exd5 5.cxd5 g6 6.Nc3 Bg7 7.Bf4 d6.)

Portisch then played **1.Qa4+** The idea behind this move is to cause confusion in Black's ranks. In this position Lubojevic (against Korchnoi) has even played 1...Ke7?! with the idea of castling by hand after ...Re8 to follow. **1...Bd7 2.Qb3** ± Modern Benoni theory has advanced much further from the diagrammed position.

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Camptest Position 16



Kopec - Fluk
New York City HS Champ., 1969

Wyvill formation (Nimzo Indian); exceptional example. **1...g6!** (If instead 1...Qf6 then 2.e4 f4 3.e5 would give White some chances.) with the idea that if **2.dxe6 Qf6** and then on **3.e4 f4** and Black succeeds in keeping the position closed. (Source: Mastering Chess, pp. 47-48)

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Camptest Position 17

French Winawer (C18) Qg4 var.

(This position is reached via: 1.e4 e6 2.d4 d5 3.Nc3 Bb4 4.e5 c5 5.a3 Bxc3+ 6.bxc3 Ne7 7.Qg4 0-0 8.Bd3 Nbc6 9.Qh5.) In this unclear variation of the French Defense (where Black has castled very early) **1...Ng6** is now the only reasonable try.

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Camptest Position 18

King and Pawn Ending

Triangulation in order to achieve the opposition. The idea is that if White can achieve the same position with Black to move, then White will win. **1.Ke5 Kc6 2.Kd4 Kd7 3.Kd5** (opposition) **3...Kc8 3...Ke7 4.c6 4.Ke6 4.Kd6 Kd8 5.c6 Kc8 6.Kc5 Kb8 = 4...Kb8 5.Kd7 Ka8 6.c6** +- (Source: Mastering Chess, p. 88)

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Camptest Position 19



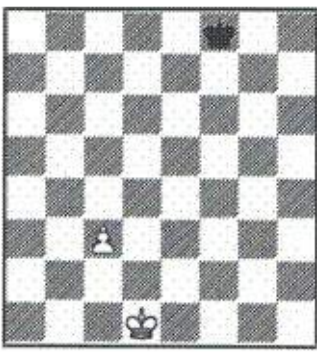
Ruy Lopez Exchange (C68) 5...Bg4

(The Ruy Lopez Exchange Variation arising from 1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Bxc6 dxc6 5.0-0 Bg4 6.h3.) Now the correct move is **1...h5** It is important that Black knows this move - a piece sacrifice that White cannot accept. After 1...Bxf3 2.Qxf3 Black would be without his two bishop potential and have no compensation for his doubled pawns.; 1...Bh5 can be met by 2.g4 Bg6 3.Nxe5 when Black cannot recapture on e4 and finds himself down a pawn with insufficient compensation.

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Camptest Position 20

Endgame Study, 1977



1.Kc2! All other moves draw only. The idea is to advance the rank of the White king while maximizing the file distance between the White king and Black king. Not 1.Kd2? Ke7 2.Kd3 Kd7 = **1...Ke7 2.Kb3 Kd6 3.Kb4 +-** (Source: *Advances in Computer Chess 1*)

Camptest Position 21



Browne - Zuckerman
New York, 1973

Browne played the sacrificial explosion **1.Nxf7!!** This was one of the most spectacular and brilliant games of Browne's career but, as he mentions himself in notes he did to the game, his sequence is not the most precise.

1.Rxh7!! (also accepted as correct) is the most accurate way to play it. If 1...Nxc3 (Or 1...Bxg5 2.Rxf7 after which the computer confirms that while it is very complicated, it is winning for White in all variations.) 2.Qf3 is winning for White. **1...Bxg5 1...Kxf7 2.Rxh7+ Kg8 3.Qe4+-; 1...Nxc3 2.Qd2**

(Browne) **2.Rxh7!!** There are many complicated lines here, most - but not all - favoring White. **2...Nf6** The game continuation, after which White wins.

(A) If 2...Nf4 3.Qg4 Qxc3? (Browne notes that a computer found the move 3...Bc6! = which leads to a draw.) 4.Rf1 Qc4 (4...Kxh7 5.Nxg5+ Kg7 6.Qxf4 Rf8 7.Qe5+ Kh6 8.Qe4 +-) 5.Qxg5 Kxh7 6.Qxf4 Kg7 7.Ne5 Rf8 8.Qg5 Qxf1+ 9.Kxf1 Bb5+ 10.Ke1 +-

(B) Another stunning computer discovery is 2...e5!!

[SEE ANALYSIS DIAGRAM]



Now:

(B1) 3.Bxg6 exd4 4.Rh8+ Kg7 5.Rh7+ when Black has nothing better than to repeat with 5...Kg8 = (Not 5...Kf6 6.Ne5+- Ne3 7.Qf3+ Kxe5 8.Rxd7 Rxd7 9.Qf5+ Kd6 10.Qxa5; Or 5...Kxg6 6.Qh5+ Kf6 7.Qxg5#)

(B2) After 3.Nxg5 the computer gives 3...exd4 4.Be4 Nxc3 5.Qd2 Bf5 6.Rxb7 with a precarious balance.

(B3) Another bizarre computer sequence is 3.Rh8+ Kxf7 4.Bxg6+ Kf6 5.Bxe8 Nf4 6.Qe4 Rxe8 7.Rxe8 Bxe8 8.h4 Bxh4 9.g3 Bxg3 10.fxg3 Nh3+ 11.Kh2 Ng5 12.dxe5+ Kg7 13.Qxb7+ also assessed as even.

3.Bxg6 Nxh7 4.Qh5 Qxc3 5.Qxh7+ Kf8 6.Rf1 Qxd4 7.Ne5 Qf4 8.Nxd7+

The computer points out the better 8.Bh5! Qf6 9.Ng6+ Qxg6 10.Bxg6 and mate next. But Browne was in time pressure. **8...Rxd7 9.Qh8+ Ke7 10.Qxe8+** and White wins. (Source: *Best Games of the Young Grandmasters - now World Title Contenders and Their Styles*, pp. 67-68.)

Camptest Position 22



Endgame Study

A classic example of the importance of the active R. **1...Rc1+ 1...Rc2** or **1...Rc3** also draw with the same idea as the main variation. **1...Ra8?** places the rook passively, which could ultimately lose for Black if he stays passive. **2.Kh2 Kg6 3.Rxa5 Ra1** when Black's active Rook secures a draw. The position is also a descendant of Position #3 in the Intermediate Test. (Source: Mastering Chess, p. 123, #24)

Camptest Position 23



Nimzo Indian, Classical (E38) Qc2 Piece Sac

This unusual position arises after the re-emergence of the Classical Variation (4.Qc2) of the Nimzo Indian Defense:

1.d4 Nf6 2.c4 e6 3. Nc3 Bb4 4.Qc2 c5 5.dxc5 Na6 6.a3 Bxc3+ 7.Qxc3 Nxc5 8.b4 Nce4 9.Qd4 d5 10.c5 b6 11.f3 (Black must now sacrifice - or lose - a piece.) 11...bxc5 12.bxc5 Qa5+ 13.Qb4

1...Qc7! 2.fxe4 Rb8 3.Qa4+ Bd7 4.c6 Qe5! A 1993 novelty. The original Ivanchuk - deFirmian game went 4...0-0 5.Bd2! Bxc6 when White was able

to survive. **5.cxd7+ Ke7** when Black has full compensation for the sacrificed material. This piece sacrifice was introduced by GM Nick deFirmian vs. GM Vassily Ivanchuk at the 1990 Manila Interzonal. This variation stemming from 4.Qc2 has helped effect the re-emergence of the entire system for White in recent years.

Camptest Position 24



MacDonnell - Lewis

Overall, we believe this is an excellent example of planning and pawn play. We have essentially presented Lasker's commentary here in the notes to 1...c6.

1.c4 a5

1...c6 The game continuation. 2.g4? Too soon. (First 2.b4 was indicated, and White wins because the pin is unbreakable, i.e. 2...d5 3.c5)

Now:

(a) 2...d5? Black does not grasp the opportunity. 3.c5 b6 4.b4 d4 5.Re5 bxc5 6.bxc5 a6 7.Kf2 R8e7 8.Ke2 White wins the d-pawn and the game easily.

(b) 2...a5 3.a3 (3.b3 is too late: 3...b6 4.a3 d5) 3...a4 followed by ...b6 and ...d5.

2.b3 b6 3.a3 c6 4.b4 axb4 5.axb4 d5 6.cxd5 Lasker gives a continuation with 6.c5 with the idea of maintaining Black's paralysis but computer analysis shows that this does not work. The main line given here is simple and decisive. **6...cxd5 7.Rxe6 Rxe6 8.Kf2 Kd6 9.Bxe6 Kxe6 10.Ke3** and White wins by creating an outside passed pawn. (Source: Lasker's Manual, p. 174)

Chapter 9

The Super-Advanced Openings Test

Instructions for Taking This Test

You are allowed two minutes for each of the positions in this test. In each position, select the one move you think is best. Your score will be based on the total number correct. A full discussion of the scoring is at the end of the test.

***Answer Sheet for Super Advanced
Openings Test***

Position Number	Best Move	Side to Move
1.		Black
2.		White
3.		White
4.		White
5.		White
6.		White
7.		White
8.		White
9.		Black
10.		Black
11.		White
12.		White
13.		White
14.		White
15.		White
16.		Black
17.		White
18.		White
19.		White
20.		White

285



Super Advanced Openings Test Position 1
Black to move

286



Super Advanced Openings Test Position 2
White to move

287



Super Advanced Openings Test Position 3
White to move

288



Super Advanced Openings Test Position 4
White to move

289



Super Advanced Openings Test Position 5
White to move

290



Super Advanced Openings Test Position 6
White to move

291



Super Advanced Openings Test Position 7
White to move

292



Super Advanced Openings Test Position 8
White to move

293



Super Advanced Openings Test Position 9

Black to move

Sequence of Two Moves Required

294



Super Advanced Openings Test Position 10

Black to move

295



Super Advanced Openings Test Position 11
White to move

296



Super Advanced Openings Test Position 12
White to move

297



Super Advanced Openings Test Position 13
White to move

298



Super Advanced Openings Test Position 14
White to move

299



Super Advanced Openings Test Position 15
White to move

300



Super Advanced Openings Test Position 16
Black to move

301



Super Advanced Openings Test Position 17
White to move

302



Super Advanced Openings Test Position 18
White to move

303



Super Advanced Openings Test Position 19
White to move

304



Super Advanced Openings Test Position 20
White to move

***Solution Key for
Super- Advanced Openings Test***

Position Number	Side to Move	Best Move(s)	Concept(s)	Key
1.	B	12...d5	DEF/C	D = Development
2.	W	8.d4	S/KIC/AT/O	S = Sacrifice
3.	W	14.c5	S/KIC	A = Attack
4.	W	15.g5	S/L/CLR	T = Tempo
5.	W	16.Na5	A/P	C = Counterplay
6.	W	11.Rxb7	M/CMP	DEF = Defense
7.	W	22.b4	QD/TB/CMP	P = Preventative
8.	W	16.Nd4	SP/P/TB	KIC = King in Center
9.	B	11...exd4 and 12...b4	C/T/AT	TH = Theory
10.	B	14...Qc5	SP/C	AT = Attack/Tactics
11.	W	14.Qg4	A	TBP = Trade Best Piece
12.	W	10.Bg5	D/SP/S/CMP	CR = Connect Rooks
13.	W	17.Ra3	A/TH	CP = Central Pressure
14.	W	14.Rc1	M/AT	M = Material
15.	W	13.Nxd5	S/AT	L = Lever
16.	B	13...g4	AT/T/S	O = Open Lines
17.	W	14.Bd2	D/CR/CP	CLR = Clearance
18.	W	14.Nxf7	S/A/KIC/CMP	BC = Big Center
19.	W	18.Re6	S/A/AT/CMP	AB = Active Bishops
20.	W	17.Nd8	A/KIC	TB = Two Bishops
				SP = Space
				CMP = Computer Preparation
				QD = Qualitative Development

Discussion: The Super Advanced Openings Test

The Super-Advanced Openings Test takes our method to the highest level. Again we have selected opening positions that are unique in that they represent the preferred move(s) by players who are clearly among the World elite. That is, the moves have been played by players rated over 2700 who have often been (or are) World Championship contenders. Such positions represent the most refined and developed approaches in contemporary chess leading to an advantage in the Opening.

For example, in a number of examples we see illustrated the distinction between quantitative and qualitative development. A familiar theme is the preservation of the two bishops in the possible transition from Opening to Endgame! Here standard heuristics emphasizing the importance of development give way to the long-term “telepower” of a bishop over a knight. We have also sought out positions where a 2700 rated player may have missed a distinct improvement, often in the transition from the Opening to the Middlegame. In some instances the move played represents a very deep combination which could not have been discovered or worked out over the board, but instead was prepared at home with computer analysis.

Some of the players whose moves and work is demonstrated via this test include: Vladimir Kramnik, Viswanathan Anand, Magnus Carlsen, Alexander Morozevich, and Gary Kasparov. A number of the positions have been chosen from the book *Champions of the New Millennium* (Quality Chess, 2009, Ftacnik, Kopec, and Browne).

**Complete Solutions to
the Super Advanced Openings Test**

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Super Advanced Openings Position 1



Sicilian Najdorf (B86)

Topalov-Short

Amsterdam VSB, 1996

1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Bc4 e6 7.Bb3 Nbd7 8.f4 Nc5 9.0-0 Ncxe4 10.Nxe4 Nxe4 11.f5 e5 12.Qh5

Test Move: **12...d5!** Previously, the moves 12...Qe7 and 12...Qd7 had been played. While some sources credit Short with a novelty, it turns out that this move was first played by GM L. Kavalek in 1965! **13.Re1 Bc5 14.Rxe4 Bxd4+ 15.Be3**

The stem game, forgotten for many years, continued: 15.Kh1 Qd7 16.Re1 0-0 17.c3 Bc5 18.Rxe5 Re8 19.Rxe8+ Qxe8 20.Bd2 Qc6 21.Re1 Bd7 22.Qf3 d4 23.Bd5 Qb6 24.cxd4 Qxb2 25.Bc3 1-0 Stanciu, T-Kavalek, L/Sinaia 1965.

15...0-0 16.Rxd4 exd4 17.Bxd4 f6 18.Bc5? 18.Re1 is a better try but the computer says that after 18...Bd7 19.Bxd5+ Kh8 20.Re3 h6 21.Bxb7 Bc6! Black is better. **18...Re8 19.Rd1 Kh8 20.Rxd5 Bd7 21.h3 Re5** and 0-1 in 46 moves.

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Super Advanced Openings Position 2



Sicilian B50

Svidler - Kasparov

Tilburg Fontys, 1997

1.e4 c5 2.Nf3 d6 3.c3 Nf6 4.Be2 Nbd7 5.d3 b6 6.0-0 Bb7 7.Nbd2 g6

Test Move: **8.d4!** A pawn sacrifice leading to a powerful initiative for White.

8...cxd4 9.cxd4 Nxe4

After 9...Bxe4 10.Nxe4 Nxe4 11.Bb5 with significant pressure on the light squares, (*Another idea is 11.Ba6 planning to follow in a few moves with Rc1, with complete control of the only open file.*) for example 11...Nef6 (*Not 11...Bg7? 12.Bc6*) 12.Qa4 (*Or 12.d5 Bg7 13.Nd4; Or 12.Bc6*)

10.Nxe4 Bxe4 11.Ng5 d5 If 11...Bb7 12.Bc4 e6 (*12...d5? 13.Qf3*) 13.Bxe6!

12.Bb5 Bg7 13.f3 Bf5 14.g4 h6 15.gxf5 hxg5 16.fxg6 a6 17.gxf7+ Kxf7 18.Ba4 Rh5 19.Be3 Nf6 20.Qd2 Qd6 21.Rf2 Rg8 22.Rg2 Rh3 23.Rf1 R8h4 24.Bc2 Nh5 25.Bf5 Nf4 26.Bxh3 Nxh3+ 27.Kh1 Qf6 28.Rg3 Qf5 29.Bxg5 Nxg5 30.Rxg5 Qh3 31.Rg2 Bf6 32.Qd3 Rxd4 33.Qg6+ Ke6 34.Qe8 Rc4 35.Qd8 Qf5 36.Re1+ Be5 37.Qb8 1-0.

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Super Advanced Openings Position 3

Center Counter (B01)

Svidler - Dreev

RUS-ch m1-2 Elista, 1997

1.e4 d5 2.exd5 Nf6 3.Nf3 Nxd5 4.d4 Bg4 5.h3 Bh5 6.c4 Nb6 7.Nc3 e5 8.g4 exd4 9.Nxd4 Bg6 10.Bg2 c6 11.0-0 Be7 12.f4 h6 13.f5 Bh7

Test Move: **14.c5!** A surprising and strong pawn sacrifice! The main point is that if **14...Bxc5** (The game continuation was 14...N6d7) **15.Re1+** Black must move his king: **15...Kf8** because If instead 15...Be7 then 16.f6! gxf6

17.Bxh6 keeps the Black king pinned in the center with many powerful threats.

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Super Advanced Openings Position 4



Center Counter (B01)

Svidler-Dreev

RUS-ch Elista, 1997

1.e4 d5 2.exd5 Nf6 3.Nf3 Nxd5 4.d4 Bg4 5.h3 Bh5 6.c4 Nb6 7.Nc3 e5 8.g4 exd4 9.Nxd4 Bg6 10.Bg2 c6 11.0-0 Be7 12.f4 h6 13.f5 Bh7 14.c5 N6d7

The game continuation from test position 3.

Test move: **15.g5!!** Another spectacular pawn sacrifice from Svidler, the purpose of which is clearance of the d1-h5 diagonal for the White queen. If

15...hxg5 then

Alternatives:

(a) The game continuation was 15...0-0 16.g6 fxe6 17.Ne6 Qc8 18.Nxf8 Bxc5+ 19.Kh1 Bxf8 20.fxe6 Bxe6 21.Bxh6 Ne5 22.Bf4 Nbd7 23.Ne4 Qe8 24.Qb3+ Qf7 25.Qg3 Bxe4 26.Bxe4 Nf6 27.Bg2 Nh5 28.Qg5 Nd3 29.Be5 Qe7 30.Qxh5 Qxe5 31.Qf7+ Kh8 32.Rf5 Nf2+ 33.Kg1 Nxe3+ 34.Kf1 1-0

(b) If 15...Bxg5 White can once again play: 16.Ne6! fxe6 (Or 16...Qe7 17.Bxg5 hxg5 18.Re1!) 17.Qh5+ Ke7 (17...g6 18.fxe6) 18.Bxg5+ hxg5 19.Qxg5+ Ke8 20.Qh5+ Ke7 21.fxe6 with a winning attack.

(c) If 15...Bxc5 16.Ne4 (or 16.Re1+ Kf8 17.Be3 with a big advantage.) 16...0-0 (If Black forces off the queens with 16...Bxd4+ 17.Qxd4 Qb6 White still keeps a winning advantage after 18.Nd6+ Kf8 19.Qxb6 axb6 20.gxe6) 17.Nxc5 Nxc5 18.gxe6 when White is has a big advantage.

(d) The best move might be 15...Nxc5 which rules out the immediate Ne6, though White still has some good chances with 16.gxe6 among other moves.

16.Ne6 is much stronger than otherwise, i.e. **16...fxe6** Or 16...Bxc5+ 17.Nxc5 Nxc5 18.Re1+; or 16...Qa5 17.Nxe7+ with a powerful attack. **17.Qh5+** is deadly.

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Super Advanced Openings Position 5

Sicilian, English Attack, (B90)

Svidler-Ponomariov

Sofia MTel Masters 2nd Elista, 2006

1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Be3 e5 7.Nb3 Be6 8.f3 Nbd7 9.g4 Be7 10.Qd2 0-0 11.g5 Nh5 12.0-0-0 b5 13.Nd5 Bxd5 14.exd5 f5 15.gxf6 Bxf6

Test move: **16.Na5!** This move initiates the main theme of the next phase

of the game - White's control and infiltration on the c6 square, leading deeply into Black's camp.

16...Nf4 17.Nc6 Qc7 18.c4! Nb8 19.Qa5 Rc8 20.Kb1 bxc4 21.Qxc7 Rxc7 22.Bxc4 Kf8 23.Na5 Nd7 24.Rc1 Bg5 25.h4 Bh6 26.Bb3 Rac8 27.Rc6 Ne2 28.Bxh6 gxh6 29.Bc4 Nd4 30.Bxa6 Nxc6 31.dxc6 Rxc6 32.Nxc6 Rxc6 33.Bb5 Rc7 34.Rc1 Nc5 35.Bc4 e4 36.b4 Rb7 37.a3 exf3 38.Rf1 Na4 39.Rxf3+ Kg7 40.Bb3 Nb6 41.Kb2 Re7 42.a4 Re4 43.Ka3 1-0.

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Super Advanced Openings Position 6



Grünfeld (D85)

Kramnik-Kasparov

Wch (2) London, 2000

1.d4 Nf6 2.c4 g6 3.Nc3 d5 4.cxd5 Nxd5 5.e4 Nxc3 6.bxc3 Bg7 7.Nf3 c5 8.Be3 Qa5 9.Qd2 Bg4 10.Rb1 a6

Test move: **11.Rxb7** This move was actually a novelty at the time. It is based on Kramnik's deep analysis/preparation emphasizing White's enduring initiative into the endgame. **11...Bxf3 12.gxf3 Nc6 13.Bc4 0-0 14.0-0 cxd4**

15.cxd4 Bxd4 16.Bd5 Bc3 17.Qc1 Nd4 18.Bxd4 Bxd4 19.Rxe7 Ra7 20.Rxa7 Bxa7 21.f4 Qd8 22.Qc3 Bb8 23.Qf3 Qh4 24.e5 g5 25.Re1 Qxf4 26.Qxf4 gxf4 27.e6 fxe6 28.Rxe6 Kg7 29.Rxa6 Rf5 30.Be4 Re5 31.f3 Re7 32.a4 Ra7 33.Rb6 Be5 34.Rb4 Rd7 35.Kg2 Rd2+ 36.Kh3 h5 37.Rb5 Kf6 38.a5 Ra2 39.Rb6+ Ke7 40.Bd5 1-0

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Super Advanced Openings Position 7



Nimzo-Indian, Classical, (E32)

Kramnik-Leko

Dortmund, 2006

[IM D. Kopec]

1.d4 Nf6 To this annotator there is a great resemblance between this Kramnik-Leko game and a famous game Alekhine-Fine, Kemerli 1937, in which Alekhine demonstrated the difference between Black's quantitative development and White's qualitative development. (See test position #8.)

2.c4 e6 3.Nc3 Bb4 4.Qc2 0-0 5.a3 Bxc3+ 6.Qxc3 b6 7.Bg5 Bb7 8.f3 h6 9.Bh4 d5 10.e3 Nbd7 11.cxd5 The text initiates a series of exchanges which lead to the essential concept of discussion -- quantitative

development versus qualitative development. **11...Nxd5 12.Bxd8 Nxc3 13.Bh4** If 13.Bxc7? Nd5 14.Bd6 Nxe3 15.Bxf8 (15.Kf2 Nc2 16.Rc1 Rfc8 etc.) 15...Nc2+ and Black recovers his pawn with an advantage. **13...Nd5 14.Bf2 c5**

An alternative (to restrain e4) was 14...f5 In one game play continued: 15.Bb5 c6 16.Bd3 c5 17.Ne2 Rac8 18.0–0 cxd4 19.Nxd4 Ne5 20.Be2 Nc4 21.Rfc1 Ncxe3 22.Nxe6 Rfe8 23.Rxc8 Bxc8 24.Nd4 Bd7 25.Bxe3 Nxe3 which was equal and occurred in Kasparov,G-Kramnik,V/Moscow 1998, although Kasparov won in 62 moves. What is noteworthy in these examples is how White retains an edge by keeping his two bishops and their latent power. There is a constant tradeoff between the element of time/development (where Black retains an edge) and the latent power of White's two bishops.

15.e4

Another Kramnik - Kasparov game continued: 15.Bb5 Rfd8 16.e4 Nc7 17.Bxd7 Rxd7 18.dxc5 f5 19.cxb6 axb6 20.Ne2 fxe4 21.fxe4 Bxe4 22.0–0 Rd2 23.Nc3 Bb7 with a slight edge for Black but ending in a draw in 38 moves. Kramnik,V-Kasparov,G/London 2000.

15...Ne7 16.Ne2 Rac8 17.Nc3 cxd4 18.Bxd4 Nc5 19.Rd1 Rfd8 20.Be3 This position is still very much in the realms of theory. What is most noteworthy with the text move and all the previous games referenced above with this line, is how White is able to disdain normal development and try to retain an edge by controlling the center (especially with the pawn on e4 blunting the B/b7 while keeping his King in the center).

Another game continued: 20.Bb5 Nb3 21.Be3 Rxd1+ 22.Kxd1 Nc6 23.Bxc6 Bxc6 24.Kc2 Na5= ½–½ in 38, Van Wely,L - Leko,P/Wijk aan Zee 2005.

20...Rxd1+ 21.Kxd1 e5

Test Move: **22.b4!N**

Kramnik is improving on an earlier game which continued: 22.Kc2 Na4 23.Bb5 Nxc3 24.bxc3 Bc6 25.a4 f5 26.Bxc6 Rxc6 27.Rd1 fxe4 28.fxe4 Rc7 29.Rd6 Kf7= ½–½ in 38 moves. Gyimesi,Z -Almasi,Z /Szekesfehervar HUN 2006.

22...Ne6 23.Kc2 Nc6 If 23...Nd4+ 24.Kb2 (contemplating the idea 25 Bxd4 exd4 26 Nb5 with dual threats of Nd6 and Nxa7) 24...Nec6 25.Nb5 Nxb5 26.Bxb5 Kf8 27.Rd1 Ke7 when White has only a tiny edge but can still try to pressure Black with the two bishops for a long time. **24.Kb2 Kf8** 24...Ncd4 25.Nb5 Nxb5 26.Bxb5 is similar to the previous note. **25.Bc4! Ncd4** Despite all the useful adages that we learn such as "don't develop pieces that hang or are exposed to discovery" Kramnik's analysis is precise: 25...Nxb4? 26.Bxe6 Nd3+ 27.Kc2 etc. **26.Bxe6! Nxe6 27.Nb5 Ra8 28.a4 Ba6?** 28...Bc6 was better, which would prevent Nb5–a3–c4 as the pawn on a4 is hanging. However, White could still try to play for an edge with 29.Nc3 planning b5, Ra1, and a5 to follow. **29.Na3! Rc8 30.b5 Bb7 31.Rc1 Rxc1 32.Kxc1 Ke7 33.a5 bxa5 34.Bxa7 f5 35.exf5 Nf4 36.g3 Nh3 37.Nc4 Ng5 38.Nxa5 Bd5 39.b6 Nxf3 40.h3 Ng5 41.b7 Bxb7 42.Nxb7 Nxh3 43.Bb6 Kd7 44.Be3 Ke7 45.Nc5 g6 46.fxg6 Kf6 47.Bxh6 Kxg6 48.Be3 1–0.**



Queens Gambit (D23)

Alekhine - Fine

Kemeris, 1937

1.d4 d5 2.c4 dxc4 3.Nf3 Nf6 4.Qa4+ Qd7 5.Qxc4 Qc6 6.Na3 Qxc4 7.Nxc4 e6 8.a3 c5 9.Bf4 Nc6 10.dxc5 Bxc5 11.b4 Be7 12.b5 Nb8 13.Nd6+ Bxd6 14.Bxd6 Ne4 15.Bc7 Nd7

Test move: **16.Nd4** preparing f3 and e4, after which White obtains a grip on the key central squares in the position. In such positions, when the Black knights cannot find secure outposts in the center, White will retain a significant advantage. **16...Nb6 17.f3 Nd5 18.Ba5 Nef6 19.Nc2 Bd7 20.e4 Rc8 21.Kd2 Nb6 22.Ne3 0–0 23.a4 Rfd8 24.Bd3 e5 25.Rhc1 Be6 26.Rxc8 Rxc8 27.Bb4 Ne8 28.a5 Nd7 29.Nd5 Bxd5 30.exd5 Nc5 31.Bf5 Rd8 32.Kc3 b6 33.axb6 axb6 34.Bxc5 bxc5 35.b6 Nd6 36.Bd7 Rxd7 37.Ra8+ Ne8 38.Rxe8#**

Super Advanced Openings Position 9



Carlsen - Radjabov B07

Biel GM, 2007

[IM D. Kopec]

1.e4 d6 2.d4 Nf6 3.Nc3 e5 4.Nge2 Nbd7 5.g3 c6 6.Bg2 b5 7.a3 Be7 8.0–0 0–0 9.h3 a5 10.g4?!

10.Be3 Ba6 11.Qd2 b4 12.axb4 axb4 13.Nb1 and Black is considered better by our computer with either 13...c5 (or with 13...exd4 14.Bxd4 c5 15.Be3 Ne5 16.b3 Bb7!) 14.dxc5 dxc5

10...Ba6 11.Ng3

Test Position, sequence of two moves required: **11...exd4**

The game continuation was 11...b4 12.Nce2 bxa3?! 13.Rxa3 d5 14.Re3 dxe4 15.Re1! Qc7?! 16.Nf5 Bd8? 17.g5 Nd5 18.Rxe4 f6?! 19.Neg3 g6 20.Nh6+ Kg7 21.dxe5 fxe5 22.e6! Kxh6 23.e7 Qb6 24.exf8Q+ Nxf8 25.c4 Nf4 26.Qd6 Kg7 27.Bxf4 gxf4 28.Re7+ 1–0

12.Qxd4 b4 13.Nce2 bxa3 Now this is good; White is clearly worse after **14.Rxa3 d5** etc. This is better than the game continuation because here the WR cannot go to e3 (as Black has...Bc5), while other rook moves allow Black to exploit the pin on the Ne2. For example: **15.Ra1**

Or 15.Rc3 Nxe4 16.Rxc6 (16.Bxe4 Bf6 17.Qe3 Bxc3 18.Qxc3 dxe4 with advantage to Black; 16.Nxe4 Bxe2 17.Re1 Bb5 –+ as Black is threatening to skewer White's major pieces two different ways.) 16...Nxe4 wins an exchange.

15...Bc5 16.Qd1 Nxe4 17.Nxe4 dxe4 18.Bxe4 Re8 19.Bd3 Bxd3 20.Qxd3 Qf6! when White is under considerable pressure and will have trouble finishing development without conceding some material.

Super Advanced Openings Position 10



Sicilian Richter Rauzer (B67)

Predojevic - Carlsen

Sarajevo Bosnia-A 36th, 2006

[IM D. Kopec]

1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Bg5 e6 7.f4 Qc7 8.Bxf6 gxf6 9.Qd2 Nc6 10.0-0-0 Bd7 11.Kb1 Nxd4 12.Qxd4 Be7 13.Be2 h5 14.Rhf1

Test Move: **14...Qc5** So far play has been following the game Zong Zhao - Xu Jun, Calvia, Men's Olympiad, 2004 which continued with 14...0-0-0 Carlsen's move is more accurate since most endings from this structure seem to favor Black. **15.Qd2 b5 16.Bf3 Rc8 17.Ne2 h4 18.Nd4 b4!? 19.Rfe1 a5 20.e5 fxe5 21.fxe5 dxe5 22.Nb3 Qc7 23.Nxa5 Ba4 24.Nb3 f5! 25.Qe2 Kf7 26.Bh5+ Kg7 27.g4 hxg3 28.Rg1 Kf8 29.hxg3 Bf6 30.g4 e4 31.Qd2 Qb6 32.Qg2?! Qb8! 33.gxf5 Qe5 34.Rd4 Bxb3 35.Qg6 Rxh5 36.axb3 Ke7 37.c3 bxc3 38.Qxh5 c2+ 39.Kc1 Qf4+ 40.Rd2 Bxb2+ 0-1.**

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Super Advanced Openings Position 11



Queens Indian (A30)

Carlsen - Aronian

Wch Candidates Elista (3), 2007

[IM D. Kopec]

1.Nf3 Nf6 2.c4 b6 3.g3 c5 4.Bg2 Bb7 5.0-0 e6 6.Nc3 Be7 7.Re1 d5 8.cxd5 Nxd5 9.d4 Nxc3 10.bxc3 Be4 11.Ne5 Bxg2 12.Kxg2 0-0 13.e4 Qc8

Test move: **14.Qg4** Such a position demands an attempt to attack on the Kingside for White. The threat is 15 Bh6 with the idea that 15...Bf6 is strongly met by 16 Nf3 Kh8 17 e5. **14...Bf6?! Aronian** tries to anticipate White's idea but runs into trouble after Carlsen's simple retreat. There were two reasonable alternatives for Black.

(A) One possibility is 14...Nc6 because, after 15.Bh6 Bf6 16.Nxc6 (16.Nf3 e5) 16...Qxc6 the e-pawn is pinned.

(B) 14...Kh8 is also playable.

(C) However, not 14...Nd7? because of 15.Bh6 Bf6 16.Nxd7 Qxd7 17.e5 winning.

15.Nf3 Kh8 16.h4 Nc6 17.Bg5! cxd4 18.Bxf6 gxf6 19.cxd4 e5 20.Qxc8 Raxc8 21.d5 Na5 22.h5! Nc4 23.Nh4 Nd6 24.h6 Rc3?! 25.Rac1 Rfc8 26.Rxc3 Rxc3 27.Nf5 Nxf5 28.exf5 Kg8 29.Re4! Kf8 30.Rg4 Rc7 31.Rg7 b5 32.Rxh7 Kg8 33.Rg7+ Kh8 34.d6 Rd7 35.Kf3 b4 36.Ke4 Rxd6 37.Rxf7 Ra6 38.g4 Kg8 39.h7+ Kh8 40.g5 fxg5 41.f6 1-0

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Super Advanced Openings Position 12



Catalan (E20)

Carlsen - Adams

Turin ol (Men) 37th, 2006

[GM L. Ftacnik / IM D. Kopec]

1.Nf3 Nf6 2.c4 e6 3.Nc3 Bb4 4.g3 0-0 5.Bg2 d5 6.d4 dxc4 7.0-0 Nc6 8.a3 Bxc3 9.bxc3 Rb8

Test Move: **10.Bg5** This move is probably part of Carlsen's home preparation. Much of the analysis that follows was prepared for the book

Champions of the New Millenium (Ftacnik, Kopec, Browne; Quality Chess 2009) but ultimately this game was not included in the book.

Earlier games continued: 10.a4 b6 11.Ba3 Re8 12.Nd2 Nd5 13.Qc2 Ba6 14.e4 Nf6 15.Rfd1 Qc8 16.Qa2 Na5 17.Bb4 Nb3 18.Nxb3 cxb3 19.Qxb3 and 1-0 in 36, Conquest, S-Ivanov, I/Swansea 1987
Or 10.Qc2 Na5 11.Nd2 1/2-1/2, Gustafsson, J-Luther, T/Altenkirchen 2005

Carlsen's idea is clearly more dangerous to Black -- namely to keep the pin on the N/f6 (even if he must sacrifice his N on g5) and to follow with e4 - e5. **10...b5**

If Black had played 10...h6 at this point, then on 11.Bh4 g5 White can sacrifice as he was prepared to do in the game continuation, with 12.Nxg5 hxg5 13.Bxg5 when a possible continuation might be 13...e5 14.d5 (Maybe 14.Qd2 as in the line analyzed below.) 14...Na5 15.f4 (Or maybe 15.e4 Qd6 16.f4) 15...e4 16.Qd4 Kg7 17.Rad1 b5 18.f5 Nb3 19.Qf2 Qd6 20.Bf4 Qb6 21.Be3 Qd6 when computer analysis suggests that there is nothing better than a repetition with 22.Bf4

11.e4 h6 12.Bh4 e5 Adams initiates tactics in order to thwart White's initiative.

Had Black played 12...g5 then play might continue 13.Nxg5 hxg5 14.Bxg5 e5 15.Qd2 (Insufficient for White is 15.Qf3 Kg7 16.d5 Na5 17.Qe3 Nb3 18.f4 Ng4 19.Qxa7 Qd6

-+) 15...Re8 (Instead on 15...exd4 16.Qf4 Nh5 17.Qh4 f6 18.Qxh5 fxe5 19.Qg6+ Kh8 20.Qxc6 White clearly wins.) 16.Bh4! The discovery of this move, and all the analysis here could only be done with the aid of a computer. 16...exd4 17.Qg5+ Kh7 18.Rae1 Rg8 19.Qxf6 Qxf6 20.Bxf6 d3 21.e5² and White retains an edge due to the insecure position of the Black King.

White also retains attacking chances (although not as clear as the above lines) after 12...Ne7 13.Bxf6 gxf6 14.Qd2² when after 14...Kg7 he can sow the seeds for attack with h4, followed by Nh2 etc.

13.Nxe5! Less clear would be 13.d5 Ne7 14.Bxf6 (not 14.Nxe5? g5) 14...gxf6 and it's not obvious how White can make an impression on Black's weakened K-side. **13...Nxe5 14.dxe5 Qxd1 15.Rfxd1 Nd7 16.f4± Re8 17.e6! fxe6 18.e5 Nxe5 19.Bd8! Nd3 20.Bxc7 Rb7 21.Bxb7 Bxb7 22.a4! bxa4 23.Rdb1 Bc6 24.Rb8 Kf7 25.Rxe8 Kxe8 26.Bd6 a6?! 27.Rb1 h5 28.Rb6 Kd7 29.Bf8 g6 30.Rxa6 e5 31.fxe5 Nxe5 32.h4 Ng4 33.Bg7 Kc7 34.Bd4 Nh6 35.Kf2 Nf5 36.Bc5 Kd7 37.Bb4 Kc7 38.Ra7+ Kb6 39.Rf7 Nh6 40.Re7 Bd5 41.Rd7 Ng4+ 42.Ke2 Be4 43.Rd4 Bd3+ 44.Kf3 Nh2+ 45.Kf4 Nf1 46.Rd6+ Kb5 47.Rd5+ Kb6 48.Ra5 Bc2 49.Re5 Bd3 50.Kf3 Nd2+ 51.Kf4 Nf1 52.g4 hxg4 53.Kxg4 Nd2 54.Kf4 Nb3 55.Re6+ Kb5 56.Re8 Nc1 57.Rb8+ Kc6 58.Ra8 Ne2+ 59.Kf3 Ng1+ 60.Ke3 Ne2 61.Rxa4 Kd5 62.Ra5+ Ke6 63.Ra2 Ng3 64.Kf4 Nf5 65.Ra6+ Kf7 66.Kg5 Ng3 67.Ra7+ Kg8 68.Kf6 Nh5+ 69.Ke5 Ng3 70.Bc5 Nf5 71.Bf2 Nh6 72.Bd4 Nf5 73.Kf6 1-0**

Super Advanced Openings Position 13



Ruy Lopez (C92)

Kasparov - Karpov

World Championship 35th-KK5 (20)

Lyon/New York, 1990

1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0-0 Be7 6.Re1 b5 7.Bb3 d6 8.c3 0-0 9.h3 Bb7 10.d4 Re8 11.Nbd2 Bf8 12.a4 h6 13.Bc2 exd4 14.cxd4 Nb4 15.Bb1 c5 16.d5 Nd7

Test Move: **17.Ra3** This variation was contested a number of times in the 1986 and 1990 Kasparov-Karpov World Championship matches. The text is

a refinement of White's attack which helps him bring another piece to the attack along the third rank. In subsequent games this maneuver has contributed to a highly favorable score for White. **17...f5 18.Rae3 Nf6 19.Nh2 Kh8 20.b3 bxa4 21.bxa4 c4 22.Bb2 fxe4 23.Nxe4 Nfxd5 24.Rg3 Re6 25.Ng4 Qe8 26.Nxh6 c3 27.Nf5 cxb2 28.Qg4 Bc8 29.Qh4+ Rh6 30.Nxh6 gxh6 31.Kh2 Qe5 32.Ng5 Qf6 33.Re8 Bf5 34.Qxh6+ Qxh6 35.Nf7+ Kh7 36.Bxf5+ Qg6 37.Bxg6+ Kg7 38.Rxa8 Be7 39.Rb8 a5 40.Be4+ Kxf7 41.Bxd5+ 1-0.**

Super Advanced Openings Position 14



Grunfeld (D80)

Ivanchuk - Svidler

Morelia/Linares 23rd, 2006

1.d4 Nf6 2.c4 g6 3.Nc3 d5 4.Bg5 Ne4 5.Bh4 Nxc3 6.bxc3 dxc4 7.e3 Be6 8.Qb1 c5?! N Previous games featured the moves 8...b6 or 8...Qd5. **9.Qxb7 Bd5 10.Qb5+ Nd7 11.Nf3 Rb8 12.Qa4 cxd4 13.cxd4 Qc8**

Test Move: **14.Rc1!** The remainder of the game hinges on White's ability to negotiate the minefield of tactics which will follow after the planned

capture on c4. The idea is after **14...e6** to play **15.Bxc4!** meeting **15...Rb4** with a clever series of tactics to justify his play. **16.Qa6! Bb7 17.Qa5! f6 18.Nd2 Bxg2 19.Rg1 Qc6 20.Rxg2! Qxg2 21.Bxe6 Bd6 22.Rc8+ Ke7 23.Rxh8 Kxe6 24.Qd8 Qg1+ 25.Ke2 1-0.**

Super Advanced Openings Position 15



Sicilian Kan Variation (B46)

Svidler - Volokitin

Turin ol (Men) 37th, 2006

[GM L. Ftacnik]

1.e4 c5 2.Nf3 e6 3.d4 cxd4 4.Nxd4 Nc6 5.Nc3 a6 6.Nxc6 bxc6 7.Bd3 d5 8.0-0 Nf6 9.Qe2 Be7 10.b3 0-0 11.Bb2 c5 12.exd5 This improvement on the game continuation is a suggestion of GM L. Ftacnik, who proposes the combination which is the basis of this test position. He analyzes it in detail

in the book, *Champions of the New Millenium* (by Ftacnik, Kopec & Browne, Quality Chess 2009), pp. 380–81.

The game continuation was 12.Rad1 Bb7 13.Na4 Qc7 14.exd5 Nxd5 15.Be5 Qc6 16.Be4 f6 17.c4 Rfd8 18.Qh5 fxe5 19.Qxh7+ Kf8 20.cxd5 exd5 21.f4 exf4 22.Bg6 Qe6 23.Qh8+ Qg8 24.Rxf4+ Bf6 25.Rxf6+ 1–0

12...exd5 If 12...Nxd5 13.Rad1

Test Move: **13.Nxd5!! Nxd5** If 13...Qxd5 14.Qxe7 Bb7 15.f3 when White is just a pawn up. **14.Rad1! Bd6** If 14...Be6 15.Be4 Bd6 (15...Nf4 16.Qf3) 16.g3 Re8 17.Qh5 g6 (17...Nf6? 18.Bxf6 gxf6 19.Qxh7+ Kf8 20.Bxa8 +-) 18.Qf3 with tremendous pressure. **15.Bxh7+ Kxh7 16.Qh5+ Kg8 17.Qxd5** when White is winning.

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Super Advanced Openings Position 16



French Defense, Classical Variation (C11)

Predojevic - Morozevich

Sarajevo Bosnia-A 38th, 2008

[NM Hal Terrie]

1.e4 e6 2.d4 d5 3.Nc3 Nf6 4.e5 Nfd7 5.f4 c5 6.Nf3 Nc6 7.Be3 a6 8.Ne2 Qb6 9.Qc1 g5 10.c3 cxd4 11.cxd4 Bb4+ 12.Kf2 f6 13.g3 If now 13.exf6 Nxf6 when Black has full compensation for a pawn regardless of how White might capture on g5.

Test Move: **13...g4!N** A dramatic move order improvement over previous play, clearly prepared at home.

Previously Morozevich had played: 13...Rf8 14.Kg2 g4 15.Nh4 Rg8 (*The critical point of Morozevich's improvement is that if here 15...fxe5 16.fxe5 Ndx5 17.dxe5 d4 White can play 18.Bh6*) 16.h3 h5 17.hxg4 hxg4 18.Nc3 fxe5 19.fxe5 Ncxe5 20.dxe5 d4 21.Na4 Qa5 22.Qc4 Nxe5 23.Qxd4 Nf3 24.Nxf3 +- and 1–0 in 48, Topalov - Morozevich, Morelia/Linares 2007.

14.Nh4 fxe5 15.fxe5 Ndx5 16.dxe5 d4 17.Bf4 With the rook not yet on f8 17.Bh6 would simply be met by 17...Nxe5 18.Kg2 (Not 18.Bg7 d3+) 18...Bd7 -+ **17...Rf8** Only now is this move played. **18.Kg2 Bd7 19.h3 d3 20.hxg4 dxe2 21.Bxe2 Nd4 22.Qe3 Bc5 23.b4 Qxb4 24.Rhb1 Qa5 25.Kh3 Nxe2 26.Qxe2 Bd4 27.Bh6 Rf2 28.Qe4 Bxa1 29.Rxa1 0–0–0 30.Bg5 Bc6 31.Rc1 Qd5 32.Qxh7 Qxa2 33.Rxc6+ bxc6 34.Nf3 Rxf3 35.Bxd8 Kxd8 0–1**

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Super Advanced Openings Position 17

Ruy Lopez, (C88)

Svidler - Leko

FIDE-Wch San Luis, 2005

[IM D. Kopec]

1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0–0 Be7 6.Re1 b5 7.Bb3 0–0 8.h3 Bb7 9.d3 Re8 10.a4 h6 11.Nc3 b4 12.Nd5 Na5 13.Ba2 Bc5

Test Move: **14.Bd2!** White connects the rooks and prepares for operations on both wings. **14...Bxd5 15.Bxd5 Nxd5 16.exd5 Qf6 17.c3 bxc3 18.Bxc3**

Qb6 19.Rxe5 Bxf2+ 20.Kh1 d6 21.Rxe8+ Rxe8 22.b4 Nb7 23.Ra2 Bg3 24.Re2 Rd8 25.Nd4 a5 26.Nc6 Rf8 27.Bd4 Qa6 28.b5 Qa8 29.Re7 Be5 30.Nxe5 dxe5 31.Bxe5 1–0. After 31.Bxe5 White has everything under control, as 31...Qd8 fails to 32.Qg4 g5 (or 32...g6 33.Qh4 f6 34.Bxf6) 33.Rd7 Qe8 34.Qf5

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Super Advanced Openings Position 18



Queens Indian (E15)

Topalov - Anand

Sofia MTel Masters 1st, 2005

1.d4 Nf6 2.c4 e6 3.Nf3 b6 4.g3 Ba6 5.b3 Bb4+ 6.Bd2 Be7 7.Nc3 c6 8.e4 d5 9.Qc2 dxe4 10.Nxe4 Bb7 11.Neg5 c5 12.d5 exd5 13.cxd5 h6

Test Move: **14.Nxf7!** Home preparation, of the type that is only possible with today's computer analysis. **14...Kxf7** If 14...Qxd5 15.Nxh8 Qxf3 16.Qg6+ Kd7 17.Nf7 when 17...Qxh1? 18.0–0–0 is winning for White. **15.0–0–0**

The ensuing play is too complicated for us to cover all variations but as you will see from the game continuation, much of White's play is based on Black's inability to defend the g6 and f5 squares, while being subjected to a pin or discovery on the Black queen along the d-file. 1–0 in 52 moves. See position 19 for the full game continuation.

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Super Advanced Openings Position 19



Queens Indian (E15)

Topalov - Anand

Sofia MTel Masters 1st, 2005

1.d4 Nf6 2.c4 e6 3.Nf3 b6 4.g3 Ba6 5.b3 Bb4+ 6.Bd2 Be7 7.Nc3 c6 8.e4 d5 9.Qc2 dxe4 10.Nxe4 Bb7 11.Neg5 c5 12.d5 exd5 13.cxd5 h6 14.Nxf7 Kxf7 15.0–0–0 Bd6 16.Nh4 Bc8 17.Re1 Na6 A later position from the same game as #18.

Test Move: **18.Re6!** One of the ideas here is that this move cuts off the diagonal of the bishop at c8, threatening to follow a future Qg6+ with Nf5,

when the knight cannot be captured. **18...Nb4** The immediate point is that if 18...Bxe6 19.dxe6+ the knight hangs on a6. White will exploit all the weak light squares (e6, f5, g6) around the Black king. **19.Bxb4 cxb4 20.Bc4 b5 21.Bxb5 Be7 22.Ng6 Nxd5 23.Rxe7+ Nxe7 24.Bc4+ Kf6 25.Nxh8 Qd4 26.Rd1 Qa1+ 27.Kd2 Qd4+ 28.Ke1 Qe5+ 29.Qe2 Qxe2+ 30.Kxe2 Nf5 31.Nf7 a5 32.g4 Nh4 33.h3 Ra7 34.Rd6+ Ke7 35.Rb6 Rc7 36.Ne5 Ng2 37.Ng6+ Kd8 38.Kf1 Bb7 39.Rxb7 Rxb7 40.Kxg2 Rd7 41.Nf8 Rd2 42.Ne6+ Ke7 43.Nxg7 Rxa2 44.Nf5+ Kf6 45.Nxh6 Rc2 46.Bf7 Rc3 47.f4 a4 48.bxa4 b3 49.g5+ Kg7 50.f5 b2 51.f6+ Kh7 52.Nf5 1–0**

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Super Advanced Openings Position 20

Sicilian, Najdorf Variation (B86)

Topalov - Kasparov

Euwe Memorial Amsterdam, 1996

[IM D. Kopec]

1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 a6 6.Bc4 e6 7.Bb3 Nbd7 8.f4 Nc5 9.0-0 Ncxe4 10.Nxe4 Nxe4 11.f5 e5 12.Qh5 Qe7 13.Qf3 Nc5 14.Nc6! Qc7 15.Bd5 a5 16.Bg5 Ra6

Test Move: **17.Nd8!!** Topalov, who is one of the sharpest and best prepared

GMs in the world and is always willing to engage in sharp tactics, demonstrates his proclivity for finding unexpected and spectacular knight maneuvers. **17...f6 18.Nf7 Rg8 19.Be3 g6 20.Ng5 Rg7**

If **20...fxg5**

(A) **21.f6** wins, for example **21...Rh8 22.f7+ Kd8 23.Bxg5+**

(B) or **21.fxg6** also wins: **21...Rh8 22.Bf7+ Kd7 (22...Kd8 23.Bxg5+) 23.Qf6 (Or 23.Bxg5).**

21.fxg6 Rxd6 22.Bf7+ Qxf7 23.Nxf7 Kxf7 24.Bxc5 dxc5 25.Rad1 Be7 26.Rd5 Bg4 27.Qe4 Kg7 28.Rfd1 Bxd1 29.Rxd1 Re6 30.Qf5 Kf7 31.Re1 b6 32.h4 Rg7 33.Kf1 Bd6 34.Kf2 Bc7 35.Kf3 Ke7 36.Re4 Kf7 37.Rg4 Re7 38.Ke4 Rxd4+ 39.Qxd4 Bd8 40.a4 Kf8 41.c3 Rg7 42.Qc8 Ke8 43.Qe6+ Kf8 44.g4 Rf7 45.h5 Rg7 46.h6 Rg6 47.Qd5 Be7 48.Kf5 Rxd6 49.Qb7 e4 50.Qb8+ Kf7 51.Qxb6 e3 52.Qe6+ Ke8 53.Qxe3 Rg6 54.Qe4 Rg5+ 55.Kf4 Kd7 56.Qb7+ Ke6 57.Qc8+ Kf7 58.Qc7 h5 59.gxh5 Rxh5 60.Qxa5 Bd6+ 61.Ke4 f5+ 62.Kd5 Be7 63.Qc7 Rh6 64.a5 Rd6+ 65.Ke5 Rf6 66.Qc8 1-0

Conclusion

Chess is an excellent game for cognitive development and for the exercise of cognitive skills. In this volume, using twelve test sets and 304 examples, our purpose has been threefold:

- (1) to test your chess skills;
- (2) to evaluate your chess knowledge; and
- (3) to enable you to learn, increase your knowledge, and improve your chess play.

Readers can derive a clearer picture of their performance on the tests by totaling their difficulty scores. A score of 90% or better (of the maximum total) would indicate mastery of the material.

We hope that you find we have fulfilled our mission.

Appendix 1

Experiments in Chess Cognition

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Abstract

The results of three related studies measuring the performance of humans and computer chess programs on different test positions are analyzed. The three experiments are: (1) The Pairs Experiment, (2) The Computer Test and (3) The Time Sequence Experiment. The underlying theme of all the work reported is oriented towards addressing the question: "How does the performance of humans and computer chess programs on a set of problem positions vary with time?" There are some surprisingly tangible results.

Introduction

In general there are two methods of remedy when a computer is insufficiently fast to handle a given problem in an acceptable time. The more common, simpler solution is to switch to a more powerful machine. However, this approach is not always feasible, and the fastest computer is not fast enough for some tasks.

The second solution is to employ more than one processor of the same family to work concurrently. In the ideal situation, the number of processors employed is inversely proportional to the required computation time. However, the processors must communicate with each other and the sub-processes must be synchronized. Thus as the number of processors increases, the margin of their increase in computation power decreases. The program OSTRICH (Newborn, 1982) uses eight Data General Nova computers in parallel. Each Nova computer is able to search one lookahead subtree. A master processor receives results from all the other processors and then selects the best one.

The pairs experiment is an attempt to discover whether humans, operating in pairs, perform significantly better than they would alone. A positive result from this experiment would be interesting, since humans do not have the capability to interact as efficiently as closely coupled computers, and are not likely to be able to subdivide their analysis to avoid overlapping work. The experiment is discussed in detail below.

The computer test is an updated version of the Bratko-Kopec Test (Bratko and Kopec 1982), and provides a background to the pairs experiment by providing a technique for measuring chess ability and examining the differences between tactical positions (which can be solved by very little chess knowledge plus searching), and lever positions (which require more knowledge). Lever positions are also taken to be representative of positional problems in general, in that some appropriate chess knowledge is required and no reasonable amount of search effort using an evaluation, without that knowledge, could solve the problem.

The Pairs Experiment

Experimental Design

Fifty eight positions are used in this experiment (see Appendix A for the complete set). The experiment is divided into three phases. In phase 1, each subject is given 8 practice positions. In phases 2 and 3, each subject and each pair of subjects are tested on 25 positions. The positions are divided into three sets: the set consisting of 8 positions for the practice phase, and two sets of 25 positions each for the main phase.

Each subject's performance on the last 5 positions of the practice set was scored for pairing purposes only. Subjects were paired in score order from highest to lowest. The pairs were then divided into two groups, A and B, of approximately equal size. All subjects in Group A had higher scores in phase 1 of the experiment than any subjects in Group B.

In phase 2, Group A took one of the main sets of positions in pairs. Both members of each pair were encouraged to discuss each test position together, thereby discouraging domination by either partner through-out the test set. At the same time, Group B took the other set of positions as individuals. For phase 3, the groups swap the position sets, with Group A working as individuals while Group B worked in pairs. In both phases 2 and 3, the first 5 positions were treated as further practice, and only the remaining twenty scored. Two minutes were allowed for each position.

The experiment is based on the earlier Bratko-Kopec experiment, though here only human chessplayers were tested. All positions are tactical (T) or lever (L) problems. Small differences compared to the earlier test are the subjects (or pairs) were asked to do 25 positions, instead of 24, and that the first 5 were not scored, being present only for practice. Thus the test consisted of 20 positions, 10 type T and 10 type L, compared to the 24 positions, 12 T and 12 L, of the earlier Bratko-Kopec test. Scores, for individuals or pairs, were out of a maximum of 20.

Learning factors for subjects may play a role in this experiment. One possibility was that the subjects might improve their ability during the experiment as a result of gaining familiarity with the types of position being used. On the other hand, another possibility was that subjects might become fatigued and their performance might decrease as the experiment proceeded. These possibilities prompted the arrangement whereby half of the subjects work in pairs first, and half work as individuals first. With this arrangement, any learning or fatigue effects will tend to cancel themselves out in the overall results.

Results of the Experiment

The main objective of this experiment, to ascertain how the performance of pairs compare to that of individuals was achieved, and the overall conclusion is that a pair of subjects will perform significantly better than their average performance as individuals.

The improvement in pair's scores was mainly due to an improvement in the L-factor of their scores, though throughout the experiment the T-factor also improves slightly. Tables 1 and 2 indicate that L scores for pairs improved over L scores for individuals in each of 5 rating categories. Tables 3 and 4 indicate that overall scores for all pairs, whether low rated, intermediate, or high rated, tended to benefit from cooperation.

We tested 44 subjects, 2 of whom only did phases 1 and 2 of the experiment, leaving us with complete test results on 42 subjects. The distribution of the 44 individual score on T and L within 6 rating categories is given in Table 1. The distribution of 21 subject pairs is given in Table 2. The rating allocated for a subject pair is the average of the individual ratings.

Table 1
Average Individual Scores

Rating Range	Mean T	Mean L	Mean TS	Mean 10(T-L)/S	Number of Subjects	Standard Deviation of TS
1000–1599	1.88	1.29	3.17	0.73	8	2.07
1600–						

1799	3.25	2.68	5.93	0.48	12	2.39
1800–1999	4.01	4.64	8.65	–0.57	11	2.54
2000–2199	4.40	4.24	8.63	0.14	11	2.45
2200–2399	7.00	8.50	15.50	–15.00	1	0.00
2400+	8.00	9.00	17.00	–10.00	1	0.00
Overall:	4.63	4.61	9.24	–1.09	44	

Table 2
Average Pairs Scores

Rating Range	Mean T	Mean L	Mean TS	Mean 10(T–L)/S	Number of Pairs	Standard Deviation of TS
1000–1599	2.67	3.61	6.28	–3.14	3	0.77
1600–1799	3.06	4.04	7.09	–1.09	9	2.35
1800–1999	6.30	4.83	11.14	4.90	3	1.16
2000–2199	6.97	6.90	13.85	0.14	5	0.99
2200–2399	7.00	10.00	17.00	–30.00	1	0.00
Overall:	5.20	5.88	11.07	–5.84		

“Mean T” and “Mean L” scores in Tables 1 and 2 are out of 10, and “Mean TS” scores are out of 20. The proportional deviation “(T–L)/S” (computed to determine whether there are differences between performance on type T and type L positions) is multiplied by 10 for scaling purposes.

Table 3
Pair Improvement: Percentages for T, L and Overall

Rating Range	Improvement in T (%)	Improvement in L (%)	Improvement in TS (%)
1000–1599	42.2	179.6	98.2
1600–1799	–06.0	50.8	19.7

1800–1999	57.0	4.1	28.7
2000–2199	58.5	62.7	60.5
2200–2399	00.0	17.6	9.7

Table 4

Pair Improvement: Overall Totals

Rating Range	Mean Individual TS	Mean Pair TS	Mean Improvement
1000–1599	3.17	6.28	3.11
1600–1799	5.93	7.09	1.17
1800–1999	8.65	11.14	2.48
2000–2199	8.63	13.85	5.22
2200–2399	15.50	17.00	1.50

Pair Improvements

From the earlier Bratko–Kopec experiment, we composed by extrapolation a rating score table for this experiment. Given a rating category, one could expect scores to fall within the ranges indicated in Table 5.

Table 5

Rating	Score (TS)
1300–1599	0–4
1600–1799	5–6
1800–1999	7–8
2000–2199	09–12
2200–2399	13–16
2400+	17–20

From Table 5 and the results listed in Tables 1 and 2, we constructed Table 6, which shows the average increase in scores and rating points for pairs over individuals.

Table 6

Rating Category	Increase in Score from Individual to Pair	Estimated Rating Point Improvement
1300–1599	3.0	250
1600–1799	1.2	100
1800–1999	2.5	200
2000–2199	5.2	250
2200–2399	1.5	100 (only 1 pair)

Table 6 shows that the rating for a pair is typically in the category above the rating category for the individuals. The average improvement approaches 200 rating points.

Statistical Analysis

We can use an F test to examine the negative hypothesis that pair scores are no better (i.e. have the same mean and variance) than the average of the individual scores of the subjects comprising the pair.

Let $s_1 \dots s_n$ be the pairs scores

$a_1 \dots a_n$ be the average of the 2 individual scores.

Writing $d_i = s_i - a_i$ with mean D ;

V (the variance) = $1 / (n - 1) \sum (d_i - D)^2$

and the statistic $F^2 = nD^2 / V$ has an $F(1, n-1)$ distribution.

On the data for the 21 pairs (given in Appendix 1-a), calculation gives:

$n = 21$ $D = 2.25$ $V = 12.33$ $F^2 = 8.65$

Since $F(1, 20)$ at the 99% confidence level is 8.10, we can conclude with greater than 99% confidence, that the hypothesis that pair scores are no better can be rejected; and thus that the substantial improvement in pair scores is statistically significant.

Discussions with cognitive psychologists led to the suggestion that our experiment may have included built-in bias. Pair scores may have been superior to the average of the pair's individual scores because the strongest member of the pair was choosing the move and the other member was complying with the first member's choice. Although this is conceivable, it wouldn't explain pair scores higher than the strongest member's scores on the individual test. In fact, in 13 out of the 16 cases where pair scores were higher than the average of the individual scores, the pair score was also higher than the greater of the individual scores.

The strongest version of the "better player dominates" suggestion leads to the idea of a "composite maximum" score (CM). The CM is a hypothetical score computed from the individual results. It is calculated by summing, over all positions, the better score on each position separately. It provides a measure of the pair score that might result if, without any genuine cooperation in problem solving, the pair somehow always managed to choose between their two answers in favor of the correct one, if any.

The statistical analysis of our experiment showed that, with very high confidence, pair scores are better than individual scores. Unfortunately, possibly because of the limited sample size, our data does not permit us to demonstrate that pair scores are better than the "composite maximum" scores.

As so much data on human scores was available, a regression and analysis of variance test was carried out to examine the basic assumption of the Bratko-Kopec test, namely that the scores on these tests correlate with chess rating. For the individual scores, a value of 52 with $F(1, 42)$ distribution was obtained for the negative hypothesis of no correlation, and for the pairs a value of 43 with $F(1, 19)$ distribution. This confirms the correlation at a highly satisfactory level (greater than 99% confidence).

The Computer Test

Following the 1983 World Computer Chess Championship, we sent two test sets of 25 positions each to the 22 participants. One test set was almost identical (two positions discarded and three added) to the earlier Bratko-Kopec experiment and was labeled "Old Positions", and the other set was labeled "New Positions." The results of ten computer programs on the Old Positions and 15 programs on the New Positions are given in Table 7. The column "SS" gives the total score on all 25 positions of the test, and the column "S" represents the total score on the last 20 positions on each test, and is thus useful for comparison with human results (e.g. in the pairs experiment) where only 20 positions were

scored. In each test, the last 20 positions consisted of ten tactical and ten lever positions, and the columns “T” and “L” represent the tactical and lever components of “S”. Of the “Old Position” results, eight of the ten programs were new to the Bratko–Kopec Test. All the programs, regardless of their ratings, score relatively highly when compared with humans (Table 4). Most probably some of these scores do not represent true Bratko–Kopec test scores, but rather the result of its use as a training set.

Table 7a
Computer Test Results: Old Positions

Name		Est. Rating	SS	TT	LL	S	T	L	10* (T-L)/S
Pion	S	1349	6.8	5.8	1.0	5.8	4.8	1.0	+6.6
Const.	C	1816	12.0	8.0	4.0	9.0	6.0	3.0	+3.3
Bebe	S	1885	13.0	10.0	3.0	9.0	7.0	2.0	+5.6
Patsoc	M	1291	13.0	11.0	2.0	10.0	8.0	2.0	+6.0
Awit	M	1660	13.2	6.8	6.3	10.7	5.3	5.3	+0.0
Bobby	M	1186	14.0	7.0	7.0	11.0	6.0	5.0	+0.9
Phoenix	M	1780	14.3	7.0	7.3	11.8	6.0	5.8	+0.1
Adv.3.0	S	1900	17.0	9.0	8.0	13.5	8.0	5.5	+1.9
Belle	S	2200	18.3	11.0	7.3	14.3	9.0	5.3	+2.6
Merlin	M	1791	18.5	11.5	7.0	16.0	10.0	6.0	+2.5

Table 7b
Computer Test Results: New Positions

Name		Est. Rating	SS	TT	LL	S	T	L	10* (T-L)/S
Spinks	m	1000	4.0	2.0	2.0	4.0	2.0	2.0	+0.0
Pion	S	1349	6.1	3.3	2.6	5.0	2.8	2.3	+1.0
Const.	C	1816	7.1	5.8	1.3	6.8	5.5	1.3	+6.1
Bobby	M	1186	7.5	4.0	3.5	5.5	3.0	2.5	+0.9
BCP	m	1260	8.0	6.0	2.0	8.0	4.5	3.5	+1.3
Patsoc	M	1291	8.0	4.0	4.0	7.0	4.0	3.0	+1.4
Awit	M	1660	9.2	5.8	3.3	7.8	5.5	2.3	+4.1
Adv.3.0	S	1900	9.8	5.3	4.5	8.0	4.5	3.5	+1.3
Phoenix	M	1780	11.2	6.0	5.2	9.2	4.0	5.2	-1.3
Bebe	S	1885	12.0	7.0	5.0	10.0	5.0	5.0	+0.0
Merlin	M	1791	12.3	5.3	7.0	10.0	5.0	5.0	+0.0
Belle	S	2200	17.9	10.3	7.6	13.7	7.3	6.3	+0.7

Key: T, L and S are scores from the last 20 positions, and may be compared with human results. TT, LL and SS are over all 25 positions. T and TT are totals for tactical positions; L and LL,

totals for lever positions; S and SS overall totals.

S: special purpose hardware

M: Mainframe

m: microprocessor

C: commercial product

The column labeled “ $10*(T-L)/S$ ” (the proportional deviation) indicates a consistent tendency for computer programs to score better on T positions than L positions. Scores for the “New Positions” are rather similar in distribution to those on the original Bratko-Kopec test and generally correspond to rating, particularly within rating categories. On this test set the domination of T over L is not as evident as in the earlier test, although the general trend is still apparent in the “ $10*(T-L)/S$ ” column.

Partial credit for the 2nd, 3rd and 4th choices was obtained either directly from the program’s output at the end of two minutes of “think” time. or from output of the “preferred move” after different periods of time, e.g. 3 minutes, 30 seconds, and 1 minute for 2nd, 3rd and 4th choices respectively. For all programs, most points scored were derived from the main preferred move (after 2 minutes computation). Where programs gave secondary moves, it was not always by the same method. It would have been more favorable for the experiment if all programs derived further choices in the same way.

Time Sequence Experiment

Objective of the Time Sequence Experiment

The purpose of this experiment is to obtain data which might give some insight as to how the performance of humans on sets of problem positions varies with time. The humans’ performance is also compared on the basis of rating. The performance of computer chess programs on the same test sets over different time allocations is evaluated. The effect of employing two or more processors at the same time to attempt to solve these problem positions is also considered.

Design of the Experiment

A series of six test sets was devised and comprised 3 practice positions at 2 minutes each, four test sets of 10 positions devised/selected for 30 seconds, 1 minute, 2 minutes and 4 minutes of solution time each. Thus, the complete experimental sequence consists of 48 positions which when administered with a 15 minute break period, requires just over two hours. The test sets were administered in a predetermined, not strictly increasing or decreasing time order, which varied with each group of subjects tested, e.g. the last group of six subjects was tested in the order practice, 4 minutes, 2 minutes, break, 30 seconds, 1 minute, 8 minutes. A total of 22 subjects with Quebec Chess Federation ratings between 1453 and 2358 (one rated below 1600, ten rated between 1600 and 2000, ten rated between 2000 and 2299, and one rated over 2300) were tested. They were randomly chosen from chess players in these rating categories in the Montreal area.

Results of the Experiment

Detailed results are given in Appendix C. Table 8 summarizes the results by rating category. Subjects fell into two major rating categories: 1600–1999 (ten subjects) and 2000–2299 (ten subjects). One significant trend emerges. On the 4 minute and 8 minute test sets the 2000–2299 subjects scored 20.1% and 17.4% respectively, above the 1600–1999 subjects, while on the 30 second, 1 minute and 2 minute test sets the scores of the two groups differed by less than 8%. Figure 1 shows this trend diagrammatically.

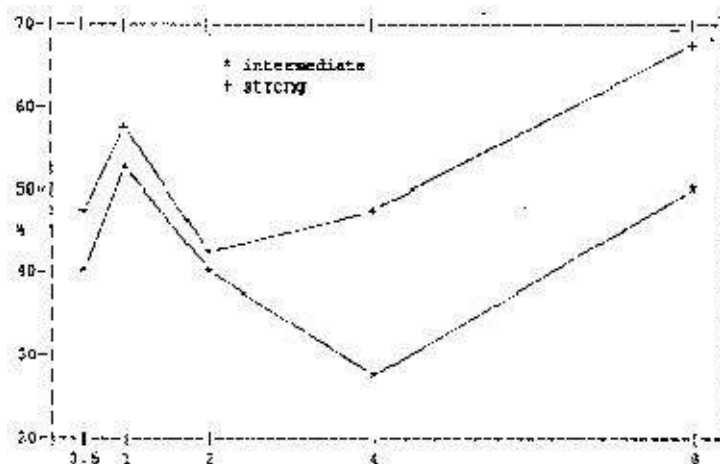
Table 8

Average results by rating category

Rating	30	1 min.	2 min.	4 min.	8 min.	Total

Range	sec. %	%	%	%	%	%
less than 1600	25.0	5.0	40.0	40.0	5.0	21.11
1600–1999	38.7	52.3	40.2	26.6	49.6	40.57
2000–2299	46.6	57.9	41.7	46.7	67.0	50.31
2300 & greater	45.0	66.7	70.0	25.0	100.0	57.04
Overall	38.8	45.5	48.0	25.8	64.2	42.27
% Change Intermediate to Strong	7.9	5.6	1.5	20.1	17.4	9.74

Figure 1
Performance Variation with Time



Statistical analyses (T test and analysis of variance) uniformly detected a significant difference between the average scores of the intermediate and strong groups for the 4 minute and 8 minute test sets, but not for the 2 minute, 1 minute or 30 second tests. This result suggests that the stronger chessplayers distinguish themselves over the intermediate ones when given longer periods of time to solve their problem positions. That is, with more time they can develop the deep understanding of a position which is necessary to solve it, whereas on the shorter term test sets (30 seconds, 1 minute, 2 minutes) their performance is rather similar to the intermediate players. This finding is in line with the findings of Chase and Simon (1973).

Results from Computer Programs

The positions used for the time sequence experiment on humans, except for the practice positions, were input to three computer programs: two versions of the program OSTRICH using one processor and 7 processors in parallel, respectively; and the commercial microcomputer program CONSTELLATION which employs only one processor.

The results are given in Appendix 1-C. The following conclusions can be drawn:

- (1) There is no significant difference between the two versions of OSTRICH. It should be mentioned that for certain positions in which the 7 processor version of OSTRICH failed, the version using one processor chose the preferred move.

- (2) The results obtained by CONSTELLATION are slightly better than those obtained by both versions of OSTRICH, but the difference is not statistically significant.
- (3) All the programs behave like weak chessplayers. That is, they have reasonably high test scores in the test set with the shortest time (30 seconds) and they perform very poorly in the other test sets. They cannot find the preferred move in the cases where knowledge is required (e.g. deep strategical concepts, non-standard sacrifices). It should be noted that in the test sets with the longest solution times (4 minutes and 8 minutes), in those few cases where a program found the preferred move, it was found in a very short time (e.g. in 1 or 2 minutes).

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Appendix 1-a

Positions Used in the Pairs Experiment

58 positions were used; 8 for the practice session and 25 each for the main tests. The revised Bratko–Kopec Test provided 50 of them (25 “old” and 25 “new”, making them almost identical to the positions in the first two tests given in this book), and an additional 8 positions were selected for practice, not given here.

Subject Pairing Chart

Practice Scores were used for pairing. Pairs were formed by matching performances on the last five of the practice positions in score order from high to low.

	Name (Rating ¹ , Practice Score)			
1. Spraggett	(2542, 4.33)	Levtchouk	(2209, 4.00)	
2. Quance	(1870, 3.33)	Finta	(2102, 2.00)	
3. Kowalski	(1500, 2.33)	Kurtz	(2113, 2.00)	
4. Beaudry	(1797, 2.00)	Duchoeny	(1793, 2.00)	
5. Chauvet	(1679, 2.00)	M. Arsenault	(1780, 2.00)	
6. Proulx	(1800, 2.00)	Morin	(1900, 1.75)	
7. Ruggeri	(1500, 2.00)	Fata	(1849, 1.50)	
8. Demers	(1750, 1.50)	Michaud	(1770, 1.50)	
9. Roy	(2034, 1.50)	Rousseau	(2126, 1.00)	
10. Zurowski	(2129, 1.50)	Roos	(2150, 1.33)	
11. Martinez	(1728, 1.33)	Desforges	(1975, 1.00)	
12. J. Jacques	(1860, 1.00)	Grigorion	(1670, 1.00)	
13. Szwarnok	(1750, 1.00)	D. Arsenault	(1815, 1.00)	
14. Smith	(1450, 1.00)	Boulay	(1421, 1.00)	
15. Maison	(1600, 0.50)	Sirois	(1350, 0.50)	
16. Beaudoin	(1460, 0.00)	Geoffrey	(1700, 0.00)	
17. Sack	(1800, 0.00) ²	Wang	(1986)	
18. Moser	(1600, 0.00) ²	Strothotte	(1815, 0.00)	
	19. R. Jacques	(1500, 0.50)	Leclare ³	
20. Dupuis	(2042)	M. Williams	(1475)	
21. Pineault	(2059)	Sasseville	(2088)	
22. Nadeau	(2120)	L. Williams	(2173)	

1 Quebec Chess Federation rating 1983 (except as indicated by note 2).

2 Official rating not available, estimated rating only.

3 Dummy pair due to odd number of subjects. Results of this pair will not be counted.

Pair Results (In Ascending Score Order)

#	Name	Rating	Pair Scores				Individual Scores		
			T	L	S	T	L	S	CM
1.	Duchoeny	1801	1.50	2.50	4.00	6.00	4.50	10.50	11.50
	Beaudry	1797				4.50	3.50	8.00	
2.	Fata	1980	3.50	1.50	5.00	2.33	6.00	8.33	9.33
	Ruggeri	1500				3.00	3.33	5.33	

3.	Boulay Smith	1355 1450	3.00	2.50	5.50	2.00 0.00	1.50 1.00	3.50 1.00	4.50
4.	Maison Sirois	1600 1320	2.00	4.00	6.00	2.00 1.50	0.00 0.00	2.00 1.50	3.50
5.	Moser Strothotte	1700 1800	1.00	5.00	6.00	4.00 1.50	4.00 3.50	8.00 5.00	12.50
6.	Michaud Demers	1812 1681	2.50	4.00	6.50	4.00 2.00	3.00 2.00	7.00 4.00	10.50
7.	Kurtz Kowalski	2050 1500	2.00	4.50	6.50	6.50 3.00	6.15 3.50	12.66 6.50	13.80
8.	M. Arsenault Chauvet	1820 1638	3.00	3.50	6.50	5.00 6.00	6.00 1.00	11.00 7.00	13.50
9.	Geoffrey Beaudoin	1715 1460	3.00	4.33	7.33	0.00 0.00	2.50 0.00	2.50 0.00	2.50
10.	Szwaronek D. Arsenault	1739 1815	3.50	4.33	7.85	4.00 3.00	2.50 3.33	6.50 6.33	8.00
11.	Dupuis M. Williams	2042 1500	4.00	5.00	9.00	3.50 2.50	2.50 1.00	6.00 3.50	8.50
12.	Proulx Morin	1780 1885	5.66	4.00	9.66	5.00 3.00	6.00 3.15	11.00 6.15	12.80
13.	Wang Sack	1900 1800	6.25	5.00	11.25	2.00 4.00	8.50 4.00	10.50 8.00	12.00
14.	Martinez Desforjes	1806 1899	7.00	5.50	12.50	3.00 3.00	4.00 1.00	7.00 4.00	9.50
15.	Joannisse Gregorion	1850 1670	6.50	6.00	12.50	5.33 3.00	3.74 2.80	9.10 5.80	12.25
16.	Pineault Sasseville	2059 2088	6.00	6.50	12.50	3.00 2.90	3.00 3.00	6.00 5.90	10.50
17.	Rousseau Roy	2105 2023	6.00	7.00	13.00	2.33 5.50	7.00 2.33	9.33 7.80	12.80
18.	Zurowski Ross	2129 2021	7.00	7.00	14.00	5.50 4.00	3.50 2.50	9.00 6.50	10.50
19.	Quance Pinta	1945 2085	7.85	6.75	14.50	6.50 5.33	7.20 8.00	13.60 13.33	17.33
20.	Nadeau L. Williams	2120 2173	8.00	7.25	15.25	3.90 5.90	5.33 3.33	9.20 9.20	12.66
21.	Spraggett Levtchouk	2538 2209	7.00	10.00	17.00	8.00 7.00	9.00 8.50	17.00 15.50	17.00

As mentioned in the main text, all test positions were chosen while trying to maintain a one to one

ratio between T and L. The work reported by Kopec, Irazoqui and Bratko (1982) indicates that as chess players improve and become strong (over 2000), we can expect a corresponding improvement in their L scores. This general result was also seen in the pairs experiment, both for pairs and individuals. In fact, the improvement of scores of pairs over individuals is mostly as a result of improvement in L scores, although T scores also increased. Although in nearly all positions it was evident that there was only one best move, further analysis of positions and post-mortem discussion with some subjects suggested that perhaps some of the L positions were too sharp, tending too much towards T positions, whereas T positions did not necessarily result in the immediate win of material or checkmate (unlike those of the earlier Bratko–Kopec Test). Thus perhaps for the purpose of selecting test positions, two heads would have been better than one.

Appendix 1-b

Time Sequence Positions

The 45 scored (i.e. not practice) positions in the time sequence experiment are given below in a modified Forsythe notation. White pieces are in capital letters (K,Q,R,B,N,P) and Black pieces are given in lower case letters (k,q,r,b,n,p). All rows are given separately unless there is a series of empty rows, e.g. 32 means four empty rows. Positions are read left to right, top to bottom, i.e. from the a8 square to the h1 square.

30 seconds

1. (W) rn1qk2r; pbppbppp; 1p2pn; 8; 2PP1B; 4PN; PP3PPP; RN1QKB1R
2. (B) r5kb; 2p1n2p; q2p2rP; 1p1P1p; 1Q1NpPP; PP2N; K7; 3R3R
3. (W) 7K; 8; k1P;7p; 32
4. (B) r2qkb1r; pp1bpppp; 2np; 8; 2BNP1n; 2N; PPP2PPP; R1BQK2R
5. (W) r3rk; pq3p1p; 4p1Qpn; 1p; 2pP; 2P4R; PP3PbP; R5K
6. (W) r1b3r; pp2kq; 4pp1R; 3p; 2pP3Q; 2P3P; P1P1BP; 2KR
7. (W) rnbq1rk; pp1n2bp; 3pp1p; 2p; 4PP; 2NB1N; PPP3PP; R1BQ1RK
8. (B) 5k; 3b2p; 1pq4p; p1pPp1p; P1P1Pn; 2P; 2Q3PP; 3BB1K
9. (W) r4rk; 2pq2pp; p3bb; n2p2B; 2B; 2P2N; P3QPPP; R2R2K
10. (W) 8; p5pk; 6q; p6p; P6P; 8; 1KQ; 8

One Minute

1. (B) r1b2rk; pp1pn1bp; 2n1p1p; 4p; BqNP; 1P3N; P4PPP; R1BQR1K
2. (W) 2rq1r; ppnb1pbk; 2np2pp; 2p1p; P3P2P; 1BPPNN; 1P3PP; R1BQ1RK
3. (W) 6R; 2pk; P2p3p; 1P4p; 8; r5P; 7P; 6K
4. (B) rn1q1r1k; 1b2B1pp; p2pB; 8; Pp2n; 8; NPP2PPP; R2QR1K
5. (W) 3n; 1p1k3p; p1pbnpp; 4p; PP2PP1P; 1BPN1KP; 3B; 8
6. (B) r2r1nk; pqp1nppp; 1p2p; 1Q2P2P; 2PPR; 2B3N; P4PP; 5K1R
7. (W) r2kb1r; pp1n3p; 1qp1bpp; 3p1p; 3P; 2NBPQ1P; PPP1NPP; R3K2R
8. (B) r1bq2k; pp2p2p; 3p2p; 2p1n1B; P1B; 2n2P; 2PQ1P1P; R4RK
9. (B) 3k; 7K; 6r; 2KP; 32
10. (W) r1bqk2r; ppp1npbp; 3p1np; 3Pp; 2P1P1PP; 2N1B; PP3P; R2QKBNR

Two Minutes

1. (W) r3k1r; 1pqb1p; p1n1p; p3Pn; 1P1p1P; P2Q1N; 2P3PP; R1B1KB1R
2. (B) r1bqk; p1pn1pp; 1p3r; 2PPP; N3P1Pp; P2BQ2P; 3K1P; R6R
3. (W) 8; 1p1k; 1P; 2PK; 32
4. (B) r1b2rk; ppp2pp; 2n1pq1p; b2p; 2PP; PQNBPN; 1P3PPP; R3K2R
5. (W) r4rk; pp3ppp; 2p4q; 2P; 1b1P; 1B3NPb; PP2Q2P; R4RK
6. (W) 5r; 3q1kp; 1p2pr1p; 2p1R2P; p1PpQP; 6P; PPP; 2K1R
7. (B) r1bq1rk; pp1p1ppp; 4p; 2n; 2PQnB; P; 1P2PPPP; 3RKBNR
8. (W) 4rrk; 2q1bppp; p2p; 1p1Pn; 3B1R; P2B2Q; 1PP3PP; 5R1K
9. (W) 5k; 32; 2P; 8; 3K
10. (W) 3rr1k; 1p1bbp1p; p3p1p; q2nN1B; 3P; 2P4R; 4QPPP; 1B2R1K

Four Minutes

1. (B) rn2k2r; p1p2ppp; 1p2pn; 3q; 3P; 2PQP1N; P4PPP; R1B2K1R
2. (B) rn1q1rk; pb4pp; 1p1pp; 2pP1p; P1P; 2PBP; 2QB1PPP; R4RK
3. (W) r4rk; pp2qppp; 4b; 2p; 8; 4PQP; PP3PBP; R4RK
4. (B) rbqr1k; 5pbp; p1pp1np; 8; 1PPBP; 2N2P; P2QB1PP; 1R2K2R
5. (B) r3qr1k; 2p1ppbp; p1N3p; 2Q1P; 1p3B; 1P5b; 1PPR; 2K3R

6. (W) 5k; p1p4R; 1pr; 3p1pP; P2P1P; 2P2K; 16
7. (B) rnbqkbnr; ppp1p1pp; 8; 3p2N; 4p; 3P; PPP2PPP; RNBQKB1R
8. (W) 2r2r1k; ppq3bp; 5np; 3p; 4p1PP; 2PBPP; PP1Q; 1K1R3R
9. (B) 8; 6p; 7p; 5p; 4p2P; 4PkP; 5P; 4K
10. (W) 4rnk; 1bq3pp; p; 3nPQ; 1p; 1N1B; 6PP; 2B2R1K

Eight Minutes

1. (B) r3r1k; pp3pbp; 1qp3p; 2B; 2BP2b; Q1n2N; P4PPP; 3R1K1R
2. (W) 4r; pppk3p; 3pr; 5B; 16; PPP3PP; 4R1K
3. (B) r5rk; 1p1bqnp; 3p1b1B; 1BnPp2P; 4P; 2N2Q; PP3P; R3KNR
4. (W) 2r2rk; pp2bp1p; 1qb1pnp; 3nN1B; 3P; P1NQ; BP3PPP; 2R2RK
5. (B) 24; 4n; 3K; 8; 6R; 3k

Solutions and Sources for the Time Sequence Experiment

Phase	To Move	Players and/or Source	Best Move
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Practice, 2 minutes

E.....	W.....	Timman–Garcia, B.G. p37.....	g3
O.....	W.....	Korchnoi–Tarjan, Lone Pine 1981.....	Bxg5
M.....	B.....	Sax–Ljubojevic, B.G. p192.....	b5

30 Seconds

O.....	W.....	Miles–Spassky, B.G. p20.....	h3
M.....	B.....	Cooper–Hübner, Inf. 34 No. 25.....	Bxd4
E.....	W.....	Reti’s Study, L.M. p161.....	c5
O.....	B.....	Nadeau–Kopec, Canadian Open 1976.....	Qb6
M.....	W.....	Timman–Pomar, B.G. p48.....	Nf5
M.....	W.....	Forgacs–Spielmann, L.M. p172.....	f4
O.....	W.....	Fischer–Domnitz, B.F.C.G. p171.....	Ng5
M.....	B.....	Spassky–Fischer, Match, Reykjavik 1972.....	Bxa4
M.....	W.....	Fischer–Ree, B.F.C.G. p250, diag.169.....	Qxe6+
E.....	W.....	Study by Lasker, L.M. p155.....	Ka3

1 Minute

M.....	B.....	Sax–Miles, B.G. p9.....	Rxf3
M.....	W.....	Kopec–Bellin, Edinburgh Congress 1981.....	h5
E.....	W.....	R+P ending, M.C. p190.....	b6
M.....	B.....	Gilden–Browne, B.G. p64.....	Qb6
E.....	W.....	Andersson–Chi, B.G. p108.....	f5
M.....	B.....	Gligoric–Portisch, O.P. p115.....	Nf5
O.....	W.....	Browne–Byrne, B.G. p72.....	g4
M.....	B.....	Larsen–Browne, B.G. p66.....	e6
E.....	B.....	KRP vs. KR, M.C. p181. Rf6,Ra6,Ke8,Kc8	
O.....	W.....	Polajzer–Davies, Graz, Austria 1981.....	Be2,f3

2 Minutes

O.....	W.....	Timman–Hug, B.G. p38.....	g4
M.....	B.....	Klugman–Kopec, World Open 1976.....	c6
E.....	W.....	Study, L.M. p155.....	Ke5
O.....	B.....	M.C. p180.....	e5

M..... W..... Fischer–Minic, B.F.C.G. p264..... Ne5
M..... W..... Kopec–Sun. Standard readers, M.C. p179..... a3,Qh7
O..... B..... Quinteros–Ribli, B.G. p154..... d5
M..... W..... Bednarski–Adamski, Inf. 26, No. 11..... Bxh7+
E..... W..... KPK endgame, A.C.C. 1, p112..... Kc2
M..... W..... Browne–Zuckerman, B.G. p68..... Nxf7
4 Minutes

O..... B..... Portisch–Gligoric, O.P. p114..... Nbd7
M..... B..... Kopec–Fluk, M.C. p85..... g6
M..... W..... Marshall–Capablanca, L.M. p175..... e4
O..... B..... Lputyan–Kasparov, B.G. p199..... c5
M..... B..... Vasjukov–Ribli, B.G. p158..... a5
E..... W..... Capablanca–Tartakower, L.M. p217..... Kg3
O..... B..... Akesson–Leslie, European Junior, 1981..... Qd6
M..... W..... Timman–Miles, B.G. p50..... h5
E..... B..... Esser–Davidson, L.M. p147..... f4
M..... W..... Prichett–Georghiu, London, 1980..... Nc5
8 Minutes

M..... B..... D. Byrne–Fischer, B.F.C.G. p111..... Be6
E..... W..... MacDonnell–Lewis, L.M. p174..... c4
M..... B..... Speelman–Biyiasis, Inf. 26, No. 34..... Nf4
M..... W..... deGroot–Scholtens, M.C. p64..... Bxd5
E..... B..... KR vs. KN, Kopec study, A.C.C.2 p67..... Nc6+

Abbreviations

B.F.C.G Bobby Fischer’s Chess Games, Wade and O’Connell
B.G. Best Games of the Young Grandmasters, Prichett and Kopec
M.C. Mastering Chess, Kopec et al.
L.M. Lasker’s Manual of Chess, Emanuel Lasker
O.P. Opening Preparation, Assiac and O’Connell
A.C.C.n Advances in Computer Chess, Vol. n Ed: Clarke, M.R.B.
Inf.n Informator n Ed: Matonovic

Human Scores for the Time Sequence Experiment

Name	Rating*	P	30s	1min	2min	4min	8min	Total
1. Vezeau	1453	0.0	2.50	0.50	4.00	0.50	2.00	9.50
2. Chauvet	1636	0.0	4.00	5.00	3.83	2.17	2.00	17.00
3. Duchoeny	1793	0.0	4.50	7.00	4.50	4.00	1.25	21.25
4. Barre	1805	0.0	2.00	5.50	3.50	2.92	1.92	15.84
5. Morin	1833	0.0	3.00	6.00	4.50	2.75	3.09	19.34
6. Balla	1867	0.5	2.50	5.33	3.25	3.50	2.50	17.08
7. Brodie	1900	0.5	4.50	5.75	3.33	2.25	1.50	17.33
8. Fletcher	1901	0.0	4.00	5.50	3.00	2.00	3.00	17.50

9. Desforges	1986	0.0	5.83	2.50	4.83	2.33	2.25	17.74
10. Wang	1986	1.0	3.33	4.75	4.50	3.17	4.00	19.75
11. Martinez	1990	1.0	5.00	5.00	5.00	1.50	3.25	19.75
12. Roy	2050	0.5	4.50	5.00	5.83	3.83	3.25	22.41
13. Dupuis	2062	0.0	1.00	4.50	5.00	3.00	2.00	15.50
14. Bolduc	2080	0.0	4.00	5.00	3.50	7.42	4.00	23.92
15. Alvarez	2041	1.0	2.00	2.75	5.50	3.75	4.00	18.00
16. Rousseau	2105	1.0	4.25	5.67	3.67	5.50	4.00	23.09
17. Lorenz	2108	0.5	5.00	5.50	2.00	3.67	1.50	17.67
18. Ibrahim	2133	0.5	5.00	5.50	1.33	3.75	3.50	19.08
19. Nadeau	2120	2.0	5.00	9.00	3.50	5.00	3.00	25.50
20. Schaeffer	2236**	N/A	8.33	6.00	4.33	4.00	4.00	26.66
21. Levtchouk	2261	2.0	7.50	9.00	7.00	6.75	4.33	34.58
22. Coudari	2358	1.0	4.50	6.67	7.00	2.50	5.00	25.67

Notes: * Quebec Chess Federation (FQE) rating.
 ** Canadian Rating (CFC).
 N/A = Data not available.

Computer Results for the Time Sequence Experiment

Program	30s	1 min	2 min	4 min	8 min	Total
1-Processor Ostrich	4.00	1.00	0.33	0.00	1.33	6.66
7-Processor Ostrich	5.00	0.50	0.25	0.50	1.00	7.25
Constellation	4.50	2.50	1.00	0.00	0.33	8.33

2nd, etc. choices (for partial credit) were obtained from non-standard solving times as follows:

Proper Time	2nd	3rd	4th

30 seconds	2 min	1 min	10 sec
1 minute	2 min	40 sec	20 sec
2 minutes	3 min	1 min	30 sec
4 minutes	5 min	2 min	1 min
8 minutes	4 min	2 min	1 min

Appendix 2

Camp Test 1995 Results

The table below represents the results of nine subjects on the CampTest administered to the top (“A”) group at Kopec’s Chess Camp (July 23–30) in 1995. This was quite a strong group, averaging 1948 across subjects ranging from ages 14 to 47. It should be mentioned that this test set has 17 T (tactical) positions and 7 L (lever) positions, with the T positions predominating slightly as in earlier test sets, i.e. an average score of 9.22 from 17 is a better result than an average of 3.02 from 7. In this set of 24 positions, there are eight opening, eight middlegame, and eight endgame test positions. Average results show that subjects could get the answers to about 50% of the O and M positions correctly. However with the eight endgame examples subjects were able to score better (avg. 5.1). than they had on average in opening (3.7) and middlegame (3.45) positions.

The results of the test administered to this small but rather uniform group of subjects are compelling. Overall total scores are a little higher than on previous tests we have administered despite the perceived difficulty of the test. This may be primarily due to T scores, ranging from 7 to 12—a higher percentage is enabled by the existence of more T positions in the test set (17 rather than 12 as in the past). A factor in the relatively high average scores on endgame positions may be that endgame positions have fewer reasonable choices of best move thereby enabling more partial credit.

Name	Age	Country	Rating	T	L	O	M	E	Total
Aaron Lewis	16	US	1956	6.93	1.58	1.30	2.58	4.58	8.50*
Judah Ash	47	US	2000	7.33	2.33	3.00	3.00	3.66	9.66
Jim Takagi	35	US	1763	7.83	2.33	2.50	3.50	4.17	10.16
Barry Petersen	43	US	1980	9.00	1.83	4.30	1.83	4.66	10.83
Patrick Hummel	10	US	1900	9.58	3.25	5.50	2.00	5.33	12.83
Bob Boylan	45	US	1900	10.75	2.50	3.80	3.50	6.00	13.25
Emmanuel Amigues	15	France	2116	7.83	6.00	2.70	5.50	5.66	13.83
Tom Hirsch	36	US	1809	11.50	3.50	4.00	5.50	5.50	15.00
Victor Ying	14	US/ China	2108	12.25	3.83	6.00	3.70	6.33	16.08
		Average	1948	9.22	3.02	3.70	3.46	5.10	12.71

Appendix 3

Novtest Scores from Kopec's Chess Camp 2001

New results from the most recent Novtest administered at Kopec's Chess Camp in 2001 indicate that the test is still performing its job effectively: helping us to assign campers to appropriate instruction groups. Those who scored well above what their ratings would predict were placed in more advanced groups. For the most part, the rating/score equivalence table continues to hold up - it usually takes a rating of 1100 or better to score over 50% (12 correct).

Name	Score	08/01 Rating
Daniel Copeland	20	1378
Cayley Robinson	19	1359
Rafael Witten	17	1289
Daniel Erenrich	17	1122
Palmer Mebane	14	1208
Evan Clark	13	769
Robbie Boettger	12	842
Lucien Taillac	11	777
Benjamin Phillips	11	620
Jared Littlefield	9	1163
Chapman Thomas	9	112
Eric Bachrach	8	571
Rohith Pottabathni	7	607
Nicholas Gosselin	6	643
Edward Barba	5	587

The significance of these tests (Novtest, Intermediate, and in fact all of our tests) is not so much how well they reflect chess ability, but more so in how they help instructors (and students) learn to focus their teaching and study.

Appendix 4

Miscellaneous Results with Bratko-Kopec Test (32 Subjects) Analysis of Within-Test Position Results

Bratko-Kopec Test																
#	Age	Ratings	Name/Links	1	2	3	4	5	6	7	8	9	10	11	12	
1	11	688	Adam Bachrach	0	0	0	0	0	1	0	0	0	0	0	0	
2	12	1365	Andrew Bakker	0	1	0	1/2	0	0	0	0	0	0	0	0	
3	16	1455	Brett Koonce	1	1	1/2	1	1	1	0	0	0	0	0	1	
4	12	1373	David Baldwin	0	1	0	1	1	1/2	1	1	0	1	1	1	
5	15	1282	Ian MacKenzie	0	1/4	1	1	1/4	0	0	0	0	1	0	1	
6	14	1318	Isaac Marnik	0	1	0	1/2	0	0	0	0	0	0	1/2	1	
7	16	973	Matt Blaine	0	0	0	0	1	0	0	0	0	0	1/2	0	
8	11	1409	Matthew Brumberg	0	0	1/4	1	0	1/4	0	0	0	1/2	1	1	
9	11	668	Michael Dal Priore	0	0	1/2	0	0	0	0	0	0	0	1/2	1/2	
10	9	1203	Nils Wernerfelt	0	1/4	0	0	0	0	0	0	0	0	0	1	
11	16	1360	Samuel McHoul	1	0	0	0	0	1/2	1/2	0	0	1	0	1/2	
12	12	574	Steven D.Bruestle	0	1	1	0	0	0	0	0	0	1	0	0	
13	47	1386	Dwight McMahon	0	0	1/2	0	0	0	0	0	0	0	0	1	
14	44	1468	Franklin Herman	1	1	0	1	0	1	0	1	0	0	1	1	
15	18	1750	Tim Poole	1	1/2	0	1/2	0	1	1	1	1	1	0	1	
16	13	1519	Vlad Vainberg	1	1	0	0	1	0	0	0	0	1/2	1/2	1	
17	A	1800	Edward Strick	1	1	0	1	1	1	0	0	0	0	1/2	1	
18	A	1750	David Le Clair	1	0	0	1	0	1/2	0	1	0	0	1	0	
19	10	1050	Elina Kats	1	0	0	1	1/2	1/2	0	0	0	0	1	0	
20	A	1414	Gino Malpartida	0	1/2	0	1	0	0	0	0	0	0	1	1	
21	A	1750~	Jeff Schwartz	1	0	0	1	0	1/2	0	0	0	0	1	1	
22	A	1500~	Ken Warwick	1	0	0	1	1/2	0	0	0	1/4	1	1	0	
23	A	1871	Pat Deboris	1	1/2	0	1/2	1	1	1	1	1	1	1	1	
24	A	?	Sorrice	1	1/2	1/2	1	0	1/2	0	1	0	0	1	1	
25	A	1550	Thomas Felle	0	0	0	1	1	1	1	1/2	1/2	0	1	0	
26	A	1600	Dave Mamula	0	0	0	1	0	0	0	0	1/2	0	1	1	
27	A	1850	David Baer	0	0	0	1	0	1/2	0	0	0	0	1	1	
28	A	1686	Julian Grata	1	0	0	1	1	1	0	0	0	0	1	1	
29	A	1800~	Jack Miller	0	0	0	0	0	1	0	0	0	1	1	1/2	
30	18	1609	Jeremy Kallen	0	0	0	1	0	0	1/2	1/4	1/2	0	1/2	1	
31	A	2000~	Michael Mansfield	1	0	0	1	1	1	0	0	0	0	1	1	
32	A	1300~	Norman Nippell	0	0	0	0	0	1/2	0	0	0	1	0	1	
Total # of Correct Answers				14	14	7	22	12	19	6	8	5	12	22	24	
Total # of Wrong Answers				18	18	25	10	20	13	26	24	27	20	10	8	
Question #			1	2	3	4	5	6	7	8	9	10	11			
Tactical / Lever	Tactical	Lever	Lever	Lever	Tactical	Lever	Tactical	Lever	Lever	Tactical	Lever	Tactical	Lever	Tactical	Lever	
Sum of Scores per question	14	10 1/2	4 1/4	19 1/2	10	13 1/4	4 1/2	6 3/4	3 1/4	11	19	22 1/2				
Percentile Of Right Answers	44%	44%	22%	69%	38%	59%	19%	25%	16%	38%	69%	75%				
Average of Score per Questions	1/2	1/2	1/4	3/2	1/2	3/2	1/2	1/2	1/2	1/2	1/2	3/2	3/2			
Sum of Lever Questions	119 1/4							Total # of Right on Lever	154							
Average of Lever Questions	1/2							Total # of Wrong on lever	230							
Percentile of Lever Questions	40%															
Sum of Tactical Questions	112							Total # of Right on Tactical	123							
Average of Tactical Questions	2/3							Total # of Wrong on Tactical	261							
Percentile of Tactical Questions	32%															

The preceding table represents a detailed analysis of 32 subjects' performance on the Bratko-Kopec Test over several years. Since 1982 we have tested over 300 people on the "*BK-Test*" as it is known.

Unfortunately we cannot report all the results here, but overall we can confirm that the performance results have continued to be very reliable, with regard to rating and in terms of suggesting where a player's strengths and weaknesses lie with regard to tactics and strategical play (levers here).

We are very grateful to Mr. Von Agojo who collected, organized and analyzed the above data for his CIS 60.1 (Senior) project in Computer Science at Brooklyn College (Fall, 2001). This has enabled us to look at some of the performance results for these subjects whose ratings range from expert (2000) to beginner (under 1000) "under a microscope." For example, based on our experience (and intuition) we had ranked as "very hard" positions 7, 18, 22, and 23 of the BK- Test, assigning each of them a difficulty level (page 24) of 4.

Indeed, subjects scored an overall performance (by percentage) on these four positions, of 19 (T), 18 (T), 19 (L) and 22 (T), (some of the lowest percentage scores), on the four positions as shown above. However, subjects also had a low (under 30%) performance score on positions 3 (L, 22), 8 (L, 25), 9 (L, 16), 16 (T 25), and 19 (T, 16). We should note that Mr. Agojo's method of assigning an equal weight to correct choices (which are possibly 2nd, 3rd, or 4th choices), for a given position, may be questioned. Using these equal weights, he derives his percentages - but this approach may raise doubts, since 2nd, 3rd or 4th choices should not be assigned equal probabilities in deriving the overall correctness score for a position.

Appendix 5 For Intermediate Test (133 Subjects)

Pos. #	Side to Move	Phase	Move(s)	Av. for Move	Difficulty Level		
1	W	M	Rxc7	0.49	1.00		
2	B	O	...Na5	0.23	2.00	Average Opening:	for 0.28
3	B	E	...Rb8, ...Rd8	0.24	2.00		
4	B	O	...Nxb3	0.41	1.00	Average Middlegame:	for 0.42
5	B	M	...Rxd2	0.53	1.00		
6	W	E	b5	0.56	2.00	Average Endgame:	for 0.49
7	W	M	Rb1	0.49	1.00		
8	W	O	Nxg5	0.52	3.00	Total Average per Position:	0.40
9	B	E	...Kh6	0.35	2.00		
10	B	M	...Qxc3	0.68	2.00	Median Position:	per 0.41
11	W	O	Bd5	0.28	2.00		
12	W	M	Rf8+	0.28	3.00	Average Whites:	for 0.46
13	B	O	...Qb4	0.15	3.00		
14	W	E	Kd4	0.73	1.00	Average Blacks:	for 0.34
15	B	O	...Qb6	0.23	1.00		
16	W	M	Bxc3	0.27	3.00	Average for Level 1:	0.48
17	B	E	...Bxd3	0.53	2.00		
18	W	O	Nxe5	0.41	2.00	Average for Level 2:	0.36
19	W	E	Kb1	0.34	3.00		
20	B	M	...Rxe4	0.41	3.00	Average for Level 3:	0.39
21	B	O	...Qd7	0.05	2.00		
22	W	E	Rxc6	0.62	3.00	Overall Average:	9.54
23	B	M	...Ng5	0.23	2.00		
24	W	E	Rd8+	0.54	3.00	Overall Median:	9.00
					50.00		

Summary of Data Analyzed

Test Name	Year	Number of Subjects
Intermediate	2000	46
Intermediate	2001	5
Intermediate	2003	2
Intermediate	2003	10
Intermediate	2004	2
Intermediate	2004	13
Intermediate	2005	1
NH Intermediate	2005	5
Intermediate	2006	11
Intermediate	2006	7
Intermediate	2009	5
Intermediate	2009	14
Intermediate	2009	7
Intermediate (2nd half)	2009	5
Total		133

SUMMARY OF RESULTS

The preceding two tables summarize the work of Vitaly Repin, a student of Dr. Danny Kopec, who analyzed data from Intermediate Test answer sheets spanning ten years of testing at Kopec's Chess Camp's between 2000 and 2009.

The second table just gives a rough summary of how the number of subjects breaks down by year. The first table contains the more interesting information. We made a number of discoveries from this analysis, including some possible errors we may have made in assigning level of difficulty.

To understand the numbers, recall how this test is scored. Subjects get to make four choices, receiving 1 point for the correct answer as first choice, 1/2 point for 2nd choice, 1/3 point for 3rd choice and 1/4 point for 4th choice. So, for example, the table shows that the average score on position 1 was 0.49. That means that, on average, subjects were getting the right answer on their second choice of move. However, the 0.23 average for position 2 means that subjects did very poorly on this position and seemed to find it difficult. So, from these numbers we can see which positions were harder or easier for the subjects. What can we learn from this information?

Intermediate players, when faced with a confounding problem, are generally unable to think "out of the box." That is, they will tend to stick to principles (which generally is a good thing to do), but sometimes the correct answer to a problem position involves "breaking the rules." For example in

Position #2, the correct and playable moves are ...exd4 and ...Na5 for Black, because Black needs to meet the double threat of Qb3 and Ng5, both exploiting his weakness on f7. Yet, most chessplayers at this level are reluctant to play moves that don't directly contribute to development, even when faced with a concrete threat. Another example of this kind of thinking "out of the box", possibly even more emphatically, is ...Rb8 or ...Rd8 in position 2. Black needs to demonstrate that he knows the concept of the active rook behind the passed pawn will draw in this type of ending. Similar thinking is necessary for positions 11,12, 15, 16 and 23 - all involve unusual tactical themes.

Another type of position where subjects did even more poorly were ones which require specific knowledge (possibly in a relatively rare opening position) of a type most advanced players tend to accumulate over the years, while intermediate players lack this broad general knowledge. Positions 13 and 21 were the both of this type - both require a specific move that is a well-documented part of opening theory. The poor scores on these "familiarity" type positions suggest that the levels of difficulty we selected for them (generally 2.0) may have been too low.

Looking at the summary column, we see that intermediate players score poorly (0.28) on openings, but better in the middlegame (0.42) and ending (0.49). Overall, these players tended to score around 10.0 on the test, which correlates to the lower end of the rating range we designed the test for. All the data reveals that these are players whose characteristics are well short of the Expert level - they tend to be tactically unimaginative and lack the broad range of knowledge needed to advance to the top of the test range (1800+).

Appendix 6

Major Revisions to 2nd Edition Implemented in 3rd Edition

1. **NovTest #21** (variation added at end)
2. **Novtest #24** (position modified to fix computer bust of original solution)
3. **Intermediate Test #8** (complete rewrite based on computer discoveries)
4. **Intermediate Test #17** (position modified to fix computer bust of original solution)
5. **BK #2** (new variation added to account for computer discovery)
6. **K + P #10** (alternate solution removed which was busted by computer)
7. **R + P #7** (comments related to computer analysis added)
8. **R + P #18** (main line extended to give full winning idea)
9. **R + P #28** (alternate win with c4 expanded with text explanations)
10. **R + P #29** (fully rewritten based on computer discoveries; position is now a draw rather than a win)
11. **R + P #31** (sub-variation "b" at end improved based on computer analysis)
12. **R + P #33** (complete rewrite based on computer discoveries)
13. **R + P #34** (complete rewrite based on computer discoveries; still a win but a precise sequence required)
14. **R + P #35** (sub-variation added for clarity after try 1.h5)
15. **Other Endings #7** (complete rewrite based on computer analysis of K + P ending)
16. **Other Endings #20** (replaced position; text comments and alternate variations)
17. **Other Endings #26** (improved main line; game continuation is now sub-variation)
18. **CampTest #9** (Complete rewrite by HT for 3rd edition)
19. **CampTest #21** (rewritten to reflect computer discoveries)
20. **CampTest #22** (Level of difficulty changed from 4 to 3)

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