



C&O Family Chess Center

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Tutorial Exercises

General Instructions

**(A note to parents, teachers,
and students)**

There are C&O tutorial exercises for all the pieces and pawns. As with all C&O Family Chess Center materials, they are intended for use by players at many different levels. Because of this fact chess terms, and some other words, will often have definitions included within the context of a sentence. The general vocabulary level used is oriented towards, or meant for, children. If you are an adult I hope you will understand.

If we overlook any words which may need further explanation please explain the word to your students if you are an adult (or ask an adult if you are a child reading this). We adults often forget that children's vocabularies may be considerably (a lot) less than our own.

Each tutorial is presented as a set of six problems, or exercises, accompanied by an additional page including specific instructions, solutions, definitions and other material related to the subject. There are often several tutorials about a specific subject, at differing levels of difficulty.

Most of these exercises are intended to be played against a teacher, computer, or

other strong opponent. Many of them give an overwhelming advantage to one side, which is the side the beginning, or weaker, student should play. The other side is "handicapped."

This is done for two reasons. First: the student, or weaker player, is intended to play the strong side. This gives him an opportunity to master the basic moves or lessons without being constantly crushed by an opponent. Second: It allows the teacher, or stronger opponent, to play his best and not feel that he must "let" the student win. The habit of "going easy" on a beginner, or weaker opponent, undermines true teaching, learning, and the "real" self-esteem that comes from achievement. As players become stronger handicaps should be reduced as needed to further the instructional objectives.

In some exercises (Tactical Problems) material is even. In that case the exercise is intended as a short game or endgame practice, primarily for two students. There is, however, no rule against non-handicap contests between student and teacher, etc.

With complete novice (total beginner) players these tutorials are used primarily to teach and practice the moves of the various chess men. Advanced-beginners (players who know all of the basic moves) and intermediate level players may use these exercises to develop confidence and learn how the different pieces may work together. Many of the "Tactical Problems," using only "some" of the pieces, are particularly useful for this.

Intermediate and advanced players may also use these tutorials to sharpen defensive skills (by playing the handicapped side against a beginner, for example) and learn how to teach the basics to beginners.

In order to get the most benefit from these exercises, for study purposes, and for progress beyond the elementary levels, it is necessary that students learn to read and write the standard forms of chess notation. The easiest (and official) notation is presented in the first section of the *C&O Student Chess Journal*, "Chess Basics for New Players" (p. 7) as well as in many other chess publications. Take a few minutes to become familiar with this basic skill. Some additional notation methods that may be useful are presented elsewhere.

Solutions to Problems

Some of the exercises have only one "correct" solution. Others may have a variety of solutions, of which the one given is only an example. The problems may all be used at different levels of ability, for study or play, and modified as an individual student or instructor wishes by altering the given conditions and/or raising or lowering the handicap.

Definitions, Terms, Principles, etc.

There are many basic chess terms, principles, and other concepts, as well as chess axioms, maxims and advice that can be of great use to the developing chess player. Many of these are given on the accompanying notes and solutions page for each set of exercises. While much of this material may be memorized, it is important for students to remember, always, that chess is *not* mainly a game of memorization, but a game of "thinking" and decision making.

Books for Further Study

These are just *some* of the many books available for students of all levels. Many are available new from amazon.com or used (my favorite) from abebooks.com

Advanced Beginner:

Pelts, Roman & Lev Alburt

Comprehensive Chess Course, Vol. II
C.I.R.C. 1996. 124 pp.

Polgar, Susan *A World Champion's*

Guide to Chess, Random House, 2005.
PB 371 pp.

Reinfeld, Fred *Complete Chess Course,*

The Doubleday 1953. 692 pp.
Descriptive ("old") Notation

Wilson, Fred & Bruce Alberston *303*

Tricky Checkmates, Cardoza, 1999.
PB 182 pp.

Wolff, Patrick *Complete Idiot's Guide to*

Chess, The Penguin 2002. 367 pp.

Intermediate:

Burgess, Graham *The Mammoth Book of*

Chess, Carroll & Graf, 1997. PB 537 pp.

Pandolfini, Bruce *Pandolfini's Endgame*

Course, Fireside, 1988. PB 320 pp.

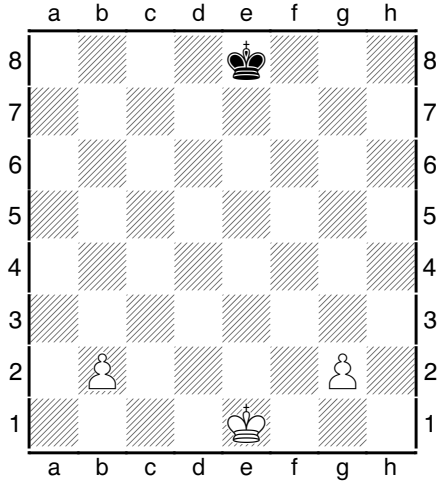
Snyder, Robert M. *Unbeatable Chess*

Lessons for Juniors Random House,
2003. PB 260 pp.

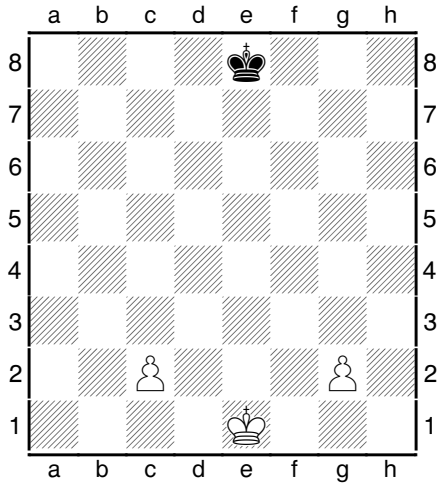
Wilson, Fred & Bruce Alberston *303*

Tricky Chess Tactics, Cardoza, 1999.
PB 187 pp.

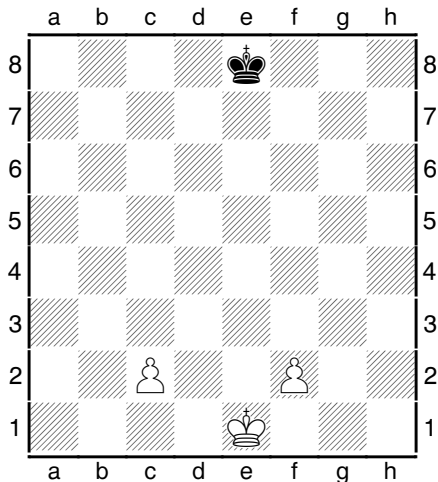
Pawn Tutor 1



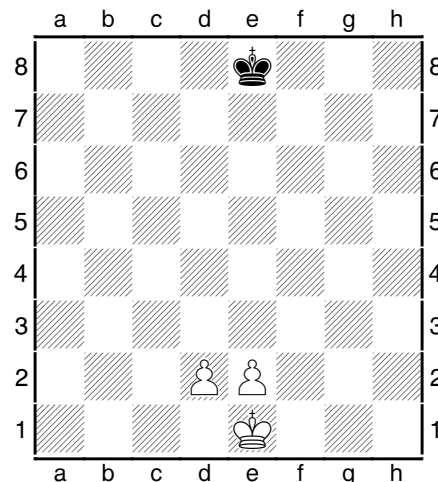
1. White Promotes
Chess Physics I



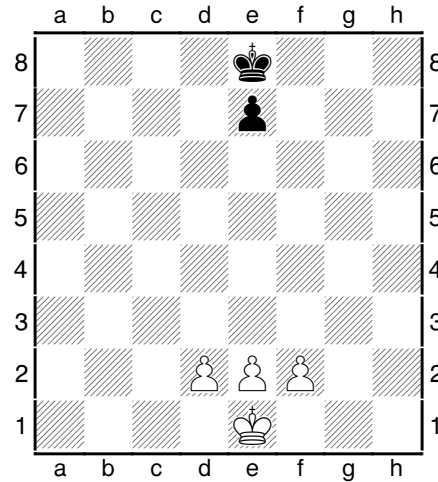
2. White Promotes
Chess Physics Ia



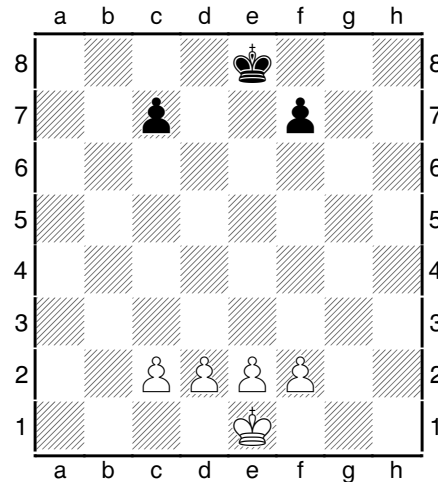
3. White Promotes
Chess Physics II



4. White Promotes
Chess Physics III



5. White Promotes
Chess Physics IV



6. White Promotes
Chess Physics IVa



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Pawn Tutor 1

These exercises may be used to teach the basic pawn and King moves to beginners as young as three or four years of age (depending on their readiness). I teach the King first, as it is one of the two simplest pieces to grasp and is the one piece that is always on the board. Then I start on the pawns, as they are the most difficult and require special handling.

Begin by setting up the position in diagram 1 on a chess board. “White Promotes” means the objective is simply for students to move a pawn to the 8th rank and promote it safely. I usually have them promote to a Rook, as this is the next piece I introduce (and the easiest one to learn).

When they can do this twice in a row, *without any adult help*, they are ready to be “promoted.” I tell students “This means that you are getting better... but also that the game gets harder!”

Solutions to Problems

In the exercises of Pawn Tutor 1, White wins simply by promoting a pawn to a Rook. *For advanced practice use the Rook, or Rooks to try and achieve checkmate.*

- Multiple solutions. **1.b4 Ke7 2. g4 Ke6 3.b5 Kd5 4.g5 Ke5 5.b6 Kd6 6.g6 Kc6 7.g7 Kxb6 8.g8=R** White promotes and wins.

Chess Physics I: “The King cannot be in two places at the same time.”

- Multiple solutions. White may still win by moving the pawns alternately until he promotes and wins.
- Multiple solutions. **1.Ke2 Ke7 2.Ke3 Kd6 3.Kd4 Ke6 4.c4 Kd6 5.f4 Ke6 6.c5 Kf6 7.Kd5 Ke7 8.c6 Kd8 9.Kd6 Kc8 10.c7 Kb7 11.Kd7 K(any) 12.c8=R** White promotes and wins.

Chess Physics II: “Kings can never be ‘next to’

each other, therefore a King can protect his pawns from the enemy King.”

- Multiple solutions. **1.e4 Ke7 2.d4 Kd6 3.Kd2 Ke6 4.d5+ Ke5 5.Kd3 Kd6 6.Kd4 Kd7 7.e5 Ke7 8.d6+ Ke6 9.Kc5 Kd7** (not ... Kxe5?? because then 10.d7! wins) **10.Kb6 Kd8 11.e6 Kc8 12.d7+ Kd8 13.Kb7 Ke7 14.Kc7 Kxe6 15.d8=R** White promotes and wins.

Chess Physics III: “Connected pawns (pawns on adjacent files) can create ‘invisible walls’ and also protect each other from an enemy King.”

- Multiple solutions. **1.d4 Kd7 2.e4 Kd6 3.f4 e6 4.Kd2 Kc6 5.Kc3 Kd6 6.f5 exf5 7.exf5 Kd5 8.Kd3 Kd6 9.Ke4 Kd7 10.Ke5 Ke7 11.d5 Kd7 12.f6 Kd8 13.Ke6** (not f7?? because then 13... Ke7 wins the f-pawn) **Ke8 14.f7+ Kf8 15.d6 Kg7 16.Ke7** and both pawns may promote.

Chess Physics IV: “Connected pawns are stronger than one isolated pawn, etc.”

- Multiple Solutions. **1.e4 c5 2.f4 Kd7 3.Ke2 Kd6 4.c4 f6 5.Ke3 Ke6 6.d4 cxd4+ 7.Kxd4 Kd6 8.c5 Kc6 9.e5 fxe5+ 10.fxe5 Kc7 11.Kd5 Kd7 12.e6+ Ke7 13.c6 Kd8 14.Kd6 Ke8 15.c7 ...and White promotes on the next move.**

Pawn Terms:

Isolated Pawn - a pawn with no pawn of the same color on the adjacent files.

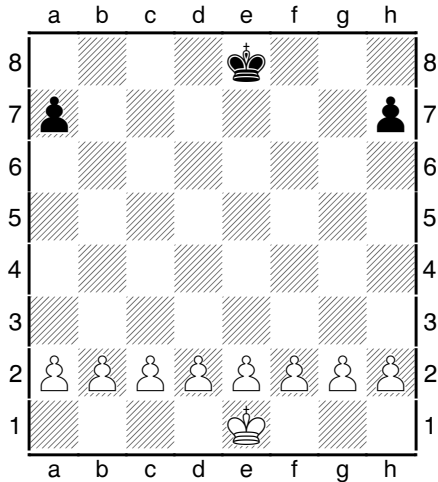
Connected Pawns - pawns with one or more friendly pawns on adjacent files.

Passed Pawn - a pawn with no opposing enemy pawn on the same or adjacent files.

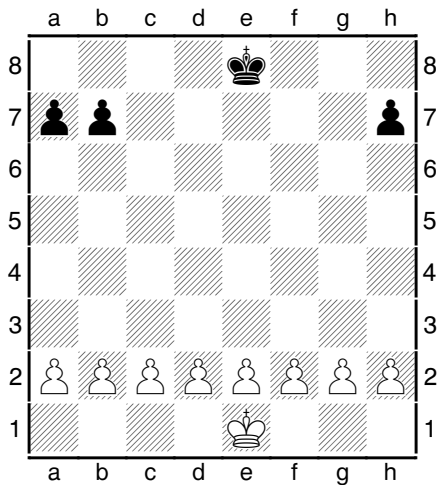
Helper - a pawn, or piece, that helps a pawn to advance safely. A ‘helper’ may also be, or become, a ‘protector’ or ‘guard.’

Protector (Guard) - a pawn, or piece, that protects (or guards) another pawn, or piece. A protector may also guard an empty square. A protector may also be, or become, a ‘helper.’

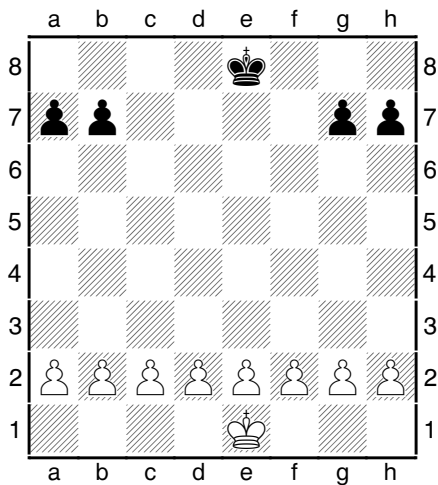
Pawn Tutor 2



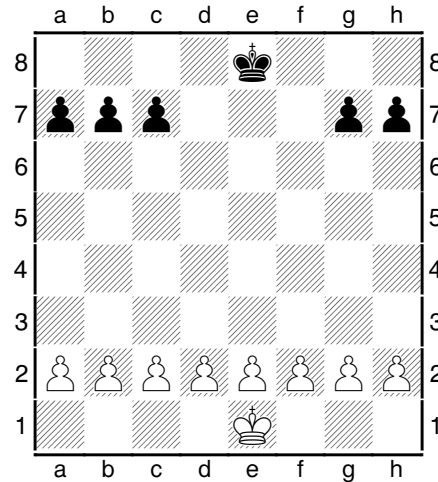
1. White Promotes & Wins



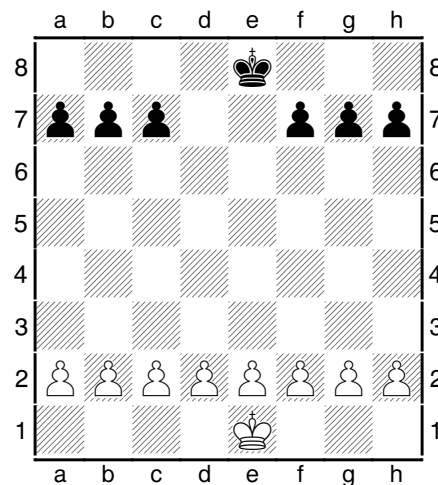
2. White Promotes & Wins



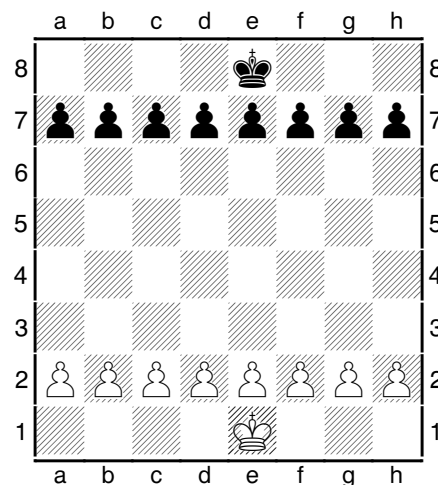
3. Promote to Rooks



4. Promote to Rooks



5. Promote to Rooks



6. Tactical Problem 1.0
Promote to Rooks



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Pawn Tutor 2

With these exercises the student is introduced to large scale pawn structure. Exercise 1 may be introduced before all the exercises of Pawn Tutor 1 have been mastered. I often do this while they are still working on Exercise 3 of Pawn Tutor 1 (PT 1). The teacher or parent may exercise discretion on the timing of new material, always keeping in mind that frequent review of older material is essential to understand how the different elements of chess interrelate.

As with PT 1, the exercises are progressively more difficult. In 1 and 2 young beginners win simply by promoting “safely” (i.e. the enemy King cannot capture the newly promoted piece). However, beginning with Exercise 3 the student is asked to “Promote to Rooks,” and then to use the Rooks to eliminate enemy pawns and/or checkmate the enemy King.

With young beginners I frequently stipulate that “You win by capturing all the enemy pawns and having a Rook (or two Rooks) left.” I also introduce the Rook Tutors at this point (including the 2-Rook and King & 1 Rook Checkmates).

Exercise 6 is actually the first of the “Tactical Problems” (a special exercise for two students of equal ability). Tactical problems are designed to give students practice with specific pieces and with a variety of “endgame” situations. Pawn & King endgames are the most basic, and often the most neglected of the endgame situations. There are other Tactical Problems for practice with various pieces.

Solutions to Problems

No specific solutions are given here as all of these exercises are for practical play and practice.

Pawn Terms, etc.:

Candidate Pawn - a pawn likely to become a passed pawn because there is no opposing pawn on the same file. Having a helper or protector may increase its chances of success.

Checkmate - the condition where one player wins the game because his opponent's King is in check and cannot get out of it.

Connected Pawns - pawns with one or more friendly pawns on adjacent files.

Doubled Pawns - two pawns of the same color on the same file (usually a weakness).

Doubled, Isolated Pawns - two isolated pawns of the same color on the same file (usually a great weakness).

Helper - a pawn, or piece, that can help a friendly pawn to advance safely. A ‘helper’ may also be, or become, a ‘protector’ (or ‘guard’).

Isolated Pawn - a pawn with no pawn of the same color on the adjacent files.

Passed Pawn - a pawn with no opposing enemy pawn on the same or adjacent files.

Pawn Chain - a group of pawns protecting each other on a diagonal.

Pawn Duo - two connected pawns aligned side-by-side on the same rank so that each could be a ‘helper,’ or support the advance of the other. A pawn duo also creates a four square ‘invisible wall.’

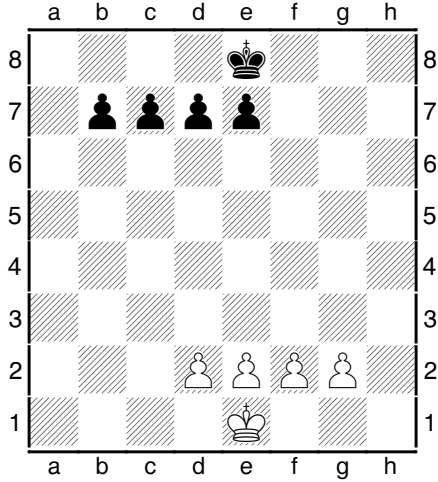
Pawn Island - an isolated pawn or group of connected pawns separated from other friendly pawns by one or more files.

Pawn Majority - a larger pawn island than the opponent's opposing pawn island. A pawn majority contains a candidate pawn and may present the opportunity to create a passed pawn.

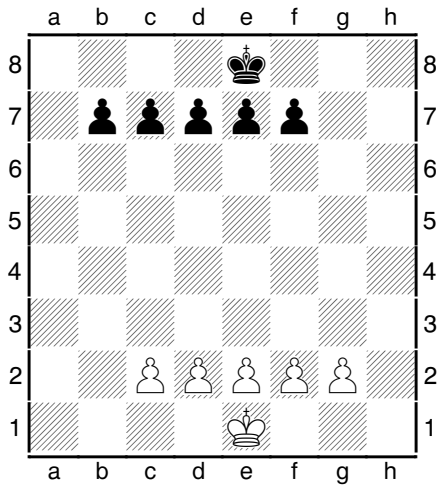
Pawn Promotion - when a pawn reaches the opposite side of the board it is ‘promoted’ (immediately exchanged for a Queen, Rook, Bishop or Knight). Sometimes this is called ‘Queening’ (although ‘under-promoting’ is also possible).

Protector (Guard) - a pawn, or piece, that protects (or guards) another pawn, or piece. A ‘protector’ may also be, or become, a ‘helper.’

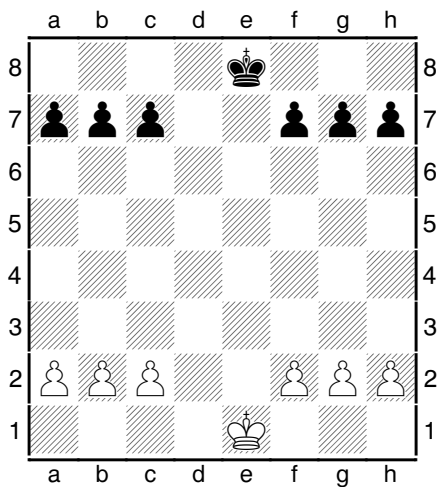
Pawn Tutor 3



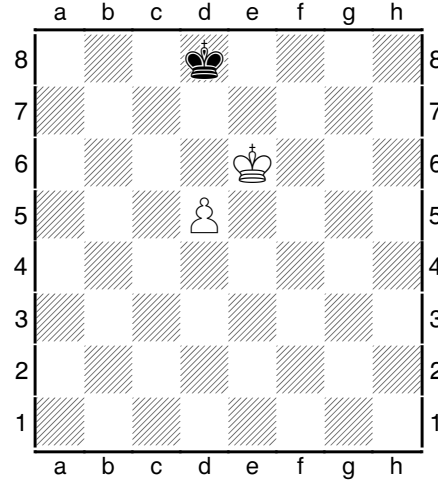
1. King & Pawns Game
Tactical Problem 1.1



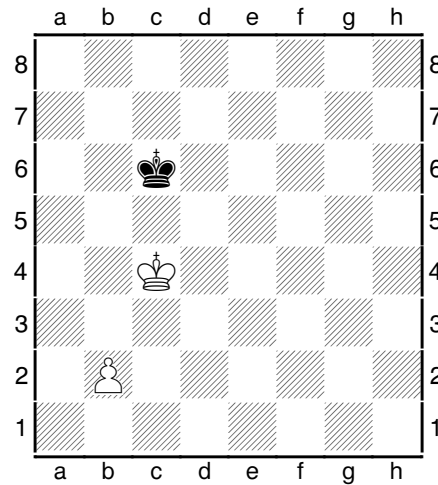
2. King & Pawns Game
Tactical Problem 1.2



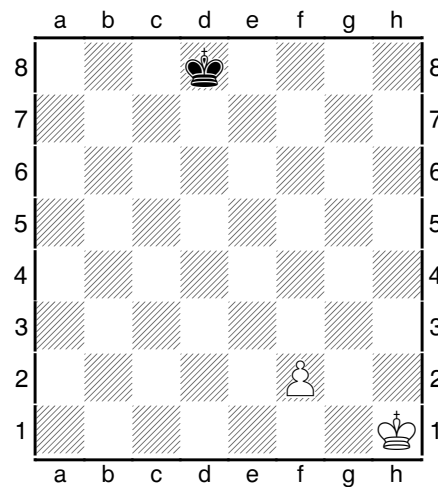
3. King & Pawns Game
Tactical Problem 1.3



4. White Wins
Black or White Moves



5. White Wins
Black or White Moves



6. White to Move and Win
Black to Move and Draw



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Pawn Tutor 3

Exercises 1 through 3 are “Tactical Problems,” intended as short games, or endgame practice, between players of about even ability. There is, however, no rule against non-handicap contests between student and teacher, etc.

Exercises 4 through 6 may be used to begin teaching advanced concepts, some of which are described below under “Terms.” It is expected that students will be moving on to the other “piece” tutorials before finishing Pawn Tutors 2 and 3. They may return to these advanced exercises periodically.

Understanding basic endgame concepts may mean the difference between winning, having to settle for a draw, or even losing, when you’re ahead. They may also allow you to achieve a draw or a win when you are behind in material in a position which might otherwise be lost.

Solutions to Problems

1.-3. King & Pawns Games (Tactical Problems).

Intended as practice exercises - No solutions given. On the lowest level the first player to promote “safely” to a Rook wins. If the opponent can capture the Rook, play continues. If the opponent promotes to a Rook on the next move play continues until one player is “safely” ahead by one Rook. The instructor’s decision is final.

All exercises may be played through to checkmate at the instructor’s discretion. The instructor may also allow promotion to Queens (advanced players) rather than Rooks.

4. **1.Kd6!** A) ... Kc8 2.Ke7 and wins!
B) ... Ke8 2.Kc7 and wins!

The “key” move, Kd6, seizes the “*direct opposition*” and forces Black’s King to give way, allowing White to control and protect the critical squares d6, d7, and d8 so that the Pawn can advance safely.

If Black moves first White may either advance his

King to e7 or advance the Pawn until Black is forced to c7 and then advance the King to e7.

5. Multiple solutions. **1.b3!** (not 1.b4?? allowing Black to blockade the Pawn with ... Kb6!) **Kb6 2.Kb4!** (see Exercise 4, above) **Kc6 3.Ka5 Kb7 4.Kb5! Ka7 5.Kc6 Kb8 6.b4 Kc8 7.b5 Kb8 8.Kb6! Kc8 9.Ka7 ...** and White promotes.

Or 1.Kb4! Kb6 2.b3 Ka6 3.Kc5! etc.

6. Multiple solutions. White Moves **1.Kg2 Ke7 2.Kf3 Kf6 3.Kf4! Ke6 4.Kg5! Kf7 5.Kf5 Ke7 6.Kg6 Ke6 7.f4! Ke7 8.f5 Kf8** (if ...Ke8 then 9.Kg7!) **9.Kf6!** and Black must give way!

Black Moves **1... Ke7! 2.Kg2 Kf6 3.Kf3 Kf5!** (Black has the “opposition”) **4.Ke3 Ke5 5.f3 Kf5 6.f4 Kf6 7.Ke4 Ke6 8.f5+ Kf6 9.Kf4 Kf7 10.Kg5 Kg7 11.f6+ Kf7 12.Kf5 Kf8 13.Ke6 Ke8 14.f7+ Kf8 15.Kf6** stalemate (or 15.Ke5 [*or Kf5, Kd5, Kd6, Kd7*] Kxf7 draw)

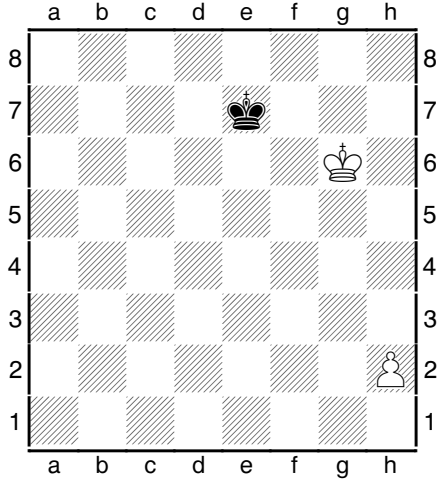
Terms:

Direct Opposition - a situation in which the two Kings occupy squares of the same color separated by one square along the same rank, file or diagonal. This is most important when a King is trying to help a Pawn advance toward promotion. In Pawn endings whichever King must move is at a great disadvantage and must give way. The other player “*has the opposition*” and may usually advance. Opposition is also important in several other endgame situations, including those in which one side is trying to force a checkmate with the King and one Rook.

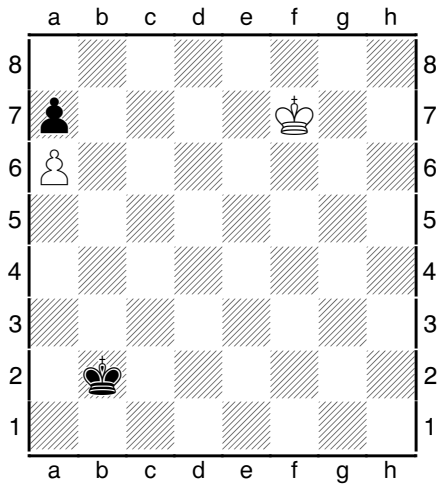
Distant Opposition - an opposition where there are three or five squares between the opposing Kings. Distant opposition may be converted to direct opposition as the Kings approach.

“**White to Move and Win,**” etc. - This phrase indicates whose turn it is in a problem or position, and that the position may be won. It does not give a “number of moves.” The term “win” in chess problems may mean anything from winning material to forcing checkmate. “**White (or Black) to mate in 1 (or 2, etc.)**” indicates that a certain number of moves is required to solve the problem.

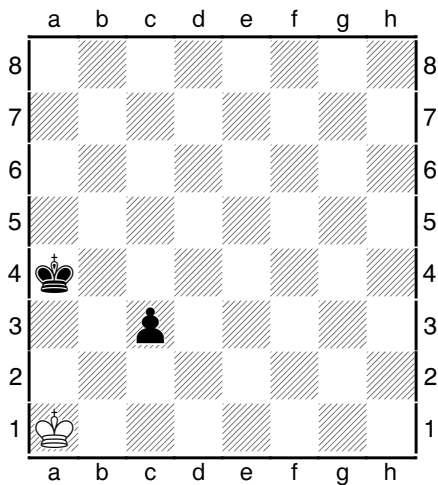
Pawn Tutor 4



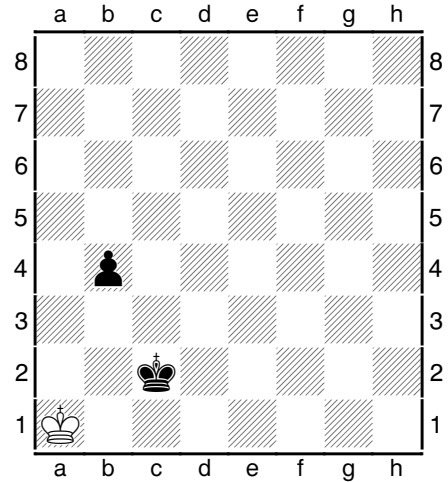
1. White to Move and Win or, Black to Move and Draw



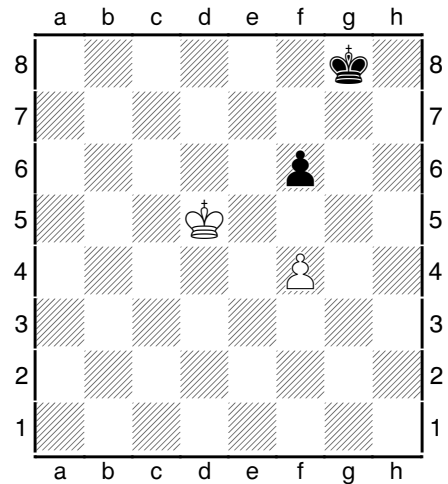
2. White to Move and Win



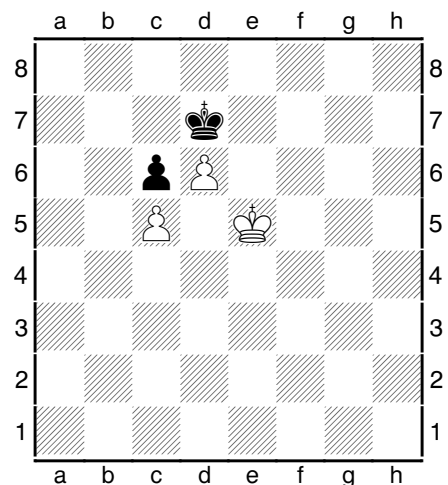
3. Either Moves, Black Wins



4. Black to Move and Win



5. White to Move and Win or, Black to Move and Draw



6. Either Moves, White Wins



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Pawn Tutor 4

These advanced tutorial exercises are intended to be studied, or to be played against a teacher, computer, or other strong opponent. Some exercises have a “correct” solution. Others have a variety of solutions, of which the one given is only an example. There are some important principles which may be learned by studying these endings.

Solutions to Problems

1. White Moves **1.Kg7!** (seizing direct opposition and blocking the black King from the f, g, and h files) **Ke6 2.h4 Kf5 3.h5 Kg5 4.h6** ...and the Pawn will promote.

Black Moves **1...Kf8!** A) **2.h4 Kg8** ...and Black can successfully block the Pawn’s advance. B) **2.Kh7 Kf7 3.h4 Kf6 4.h5 Kf7!** (not **4...Kg5?? 5.h6 Kf6 6.Kg8 Kg6 7.h7** ... and the Pawn will promote) **5.h6 Kf8 6.Kg6 Kg8!** ...and the Pawn is blocked.

2. **1.Ke6 Kc3 2.Kd5 Kb4 3.Kc6 Kc4 4.Kb7 Kc5 5.Kxa7 Kc6 6.Kb8** ...and the Pawn promotes. **1.Ke7??** fails to **...Kc3!** **2.Kd6 Kd4 3.Kc6 Ke5 4.Kb7 Kd6 5.Kxa7 Kc7!** and the white King is trapped!

3. White Moves **1.Ka2 Kb4 2.Kb1 Kb3!** (seizing direct opposition) **3.Kc1 c2! 4.Kd2 Kb2** ...and black promotes.

Black Moves. **1... Ka3!** (not **...Kb3??** allowing Black to get the opposition with **2.Kb1!** and a draw) **2.Kb1 Kb3** (maintaining the opposition) **3.Kc1** ...and Black wins as above.

4. **1...Kb3!** (not **...b3??** stalemate) **2.Kb1 Ka3 3.Ka1 b3! 4.Kb1 b2 5.Kc2 Ka2** ...and Black promotes

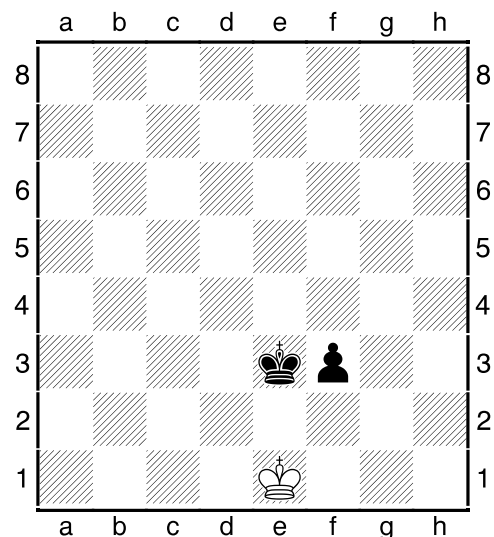
5. Multiple solutions: White to move **1.f5! Kf7 2.Kd6 Kf8 3.Ke6 Kg7 4.Ke7 Kg8 5.Kxf6 Kf8 6.Ke6 Ke8 7.f6 Kf8 8.f7!** (without giving check) **8...Kg7 9.Ke7** ...and the white Pawn promotes.

Black Moves **1...f5 2.Ke5 Kf8!** (not **...Kf7??** allowing White to obtain the opposition, and the win, with **3.Kxf5!**) **3.Kxf5 Kf7!** (seizing the opposition) **4.Ke5 Ke7 5.f5 Kf7 6.f6 Kf8 7.Ke6 Ke8! 8.f7+ Kf8** ...and a draw follows.

6. Multiple Solutions. You find them.

Terms:

Zugzwang - this is a German word which means the “compulsion to move.” In chess you are said to be “*in zugzwang*” when you are forced to make a move which worsens your position. It is sometimes called “being in a squeeze.” The position below demonstrates zugzwang for both sides. If Black moves first, he can only draw. If White moves first, he is lost. Can you see how?



Principles:

In King & Pawn endings, if the King advances to the sixth rank before the Pawn, the Pawn can be promoted (except for the Rook Pawns).

In King & Pawn endings, if a Pawn (except Rook Pawns) can be advanced to the seventh rank **without** giving check then it can be promoted.

In King & Pawn endings, if a Pawn gives check when it advances to the seventh rank the game will be drawn.