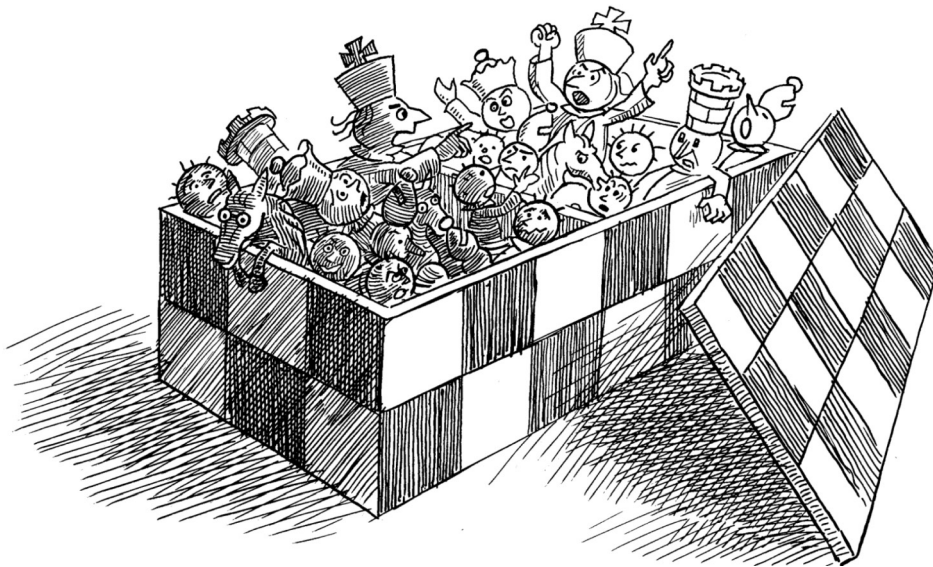# Step 5

Reminders

The 4th edition of workbook Step 5 is published for the first time as an international version. We have decided to remove the reminders and make them available as a PDF file for downloading.
This means more exercises on the pages that have become available.
As a teacher you can now hand out the reminders one by one at the appropriate time. Please note that a reminder can never replace the lesson in the manual! (Manual for chess trainers Step 4).

The page number at the bottom left refers to pages in the workbook with the corresponding theme of the reminder.

The solutions of all workbooks can be found on the website at:
http://www.stappenmethode.nl/en/solutions.php

Information and an order form can be found on our website at: http://www.stappenmethode.nl/en/

Material and time

Evaluating a position in terms of material is easy. Now that you have taken your chess skills to a higher level, you will find that this way of evaluating positions is too simplistic. It is also important to take into account the dimension of time – not the time on your clock, but the time on the board.
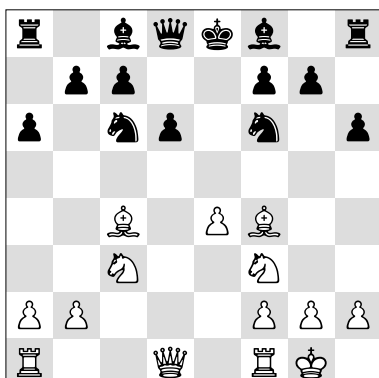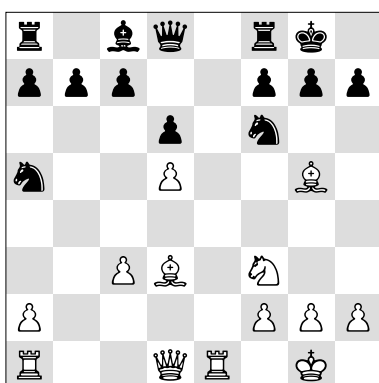
Lead in development
On the left, White has a temporal advantage of three moves. White has already developed both his bishops and he has already castled.
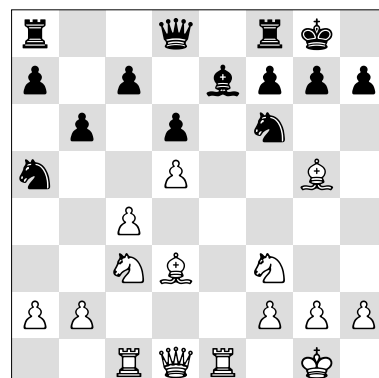
Badly positioned pieces
On the right, Black requires two moves to bring the knight on a5 back into play.

White not only has a slight lead in development, but he can also exploit the poor position of Black's knight. The knight cannot take part in the defence of the kingside. Many of White's pieces are aimed at Black's king. The appropriate course of action is therefore an attack on the king:
**1. Qa4** (to the kingside with a gain of tempo) **1. ... b6 2. Qh4 h6 3. Bxh6 gxh6 4. Qxh6 Nb7** (there is not much else) **5. Ng5 Nc5 6. Bh7+ Kh8 7. Bc2+ Kg8 8. Re3** and **9. Rg3**. White has a clear advantage on the kingside. The black knight was unable to join the defences.

The following three positions have been taken from a game between Leo Kerkhoff and Eddie Scholl. Kerkhoff cleverly exploits his lead in development while Scholl rather neglects to develop his pieces. The first diagram arises after **1. e4 d6 2. d4 Nf6 3. Nc3 g6 4. Bg5 c6 5. Be2 Nbd7 6. Nf3 Qc7 7. Qd2 b5?** (Black should have followed up with 7. ... Bg7).
The side with the temporal advantage should: ● **find concrete targets**
● **open up the position**
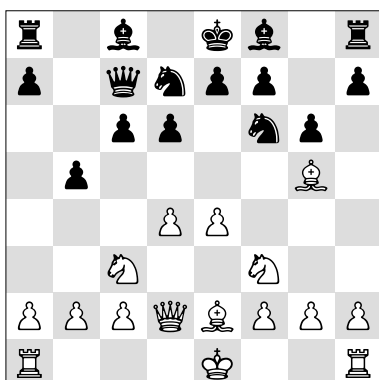
White opens up the position to get at the uncastled king. This is well worth a pawn:
**8. e5 dxe5 9. dxe5 Nxe5 10. Nxe5 Qxe5 11. 0-0-0 Be6 12. Bf3 Nd5 13. Bf4!**
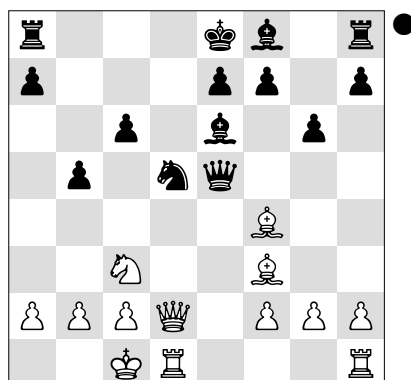
A bishop sacrifice that cannot be accepted. White wins after 13. ... Qxf4 14. Qxf4 Nxf4 15. Bxc6+ Bd7 16. Rxd7. The game continued **13. ... Qf6 14. Bxd5 Bxd5 15. Nxd5 cxd5**.
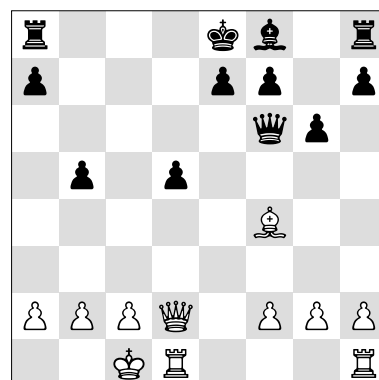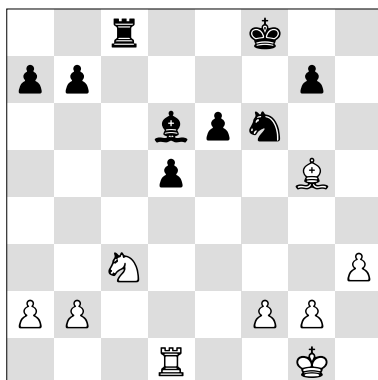
The position has been opened up and Black has not been able to develop his pieces. The end is near:
16. Qxd5 Qxf4+ 17. Kb1. Black resigned. The position after 17. … f6 is hopeless.
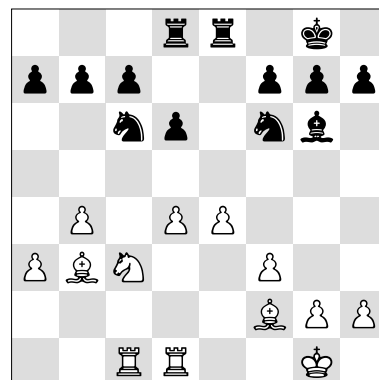
The use of pawns

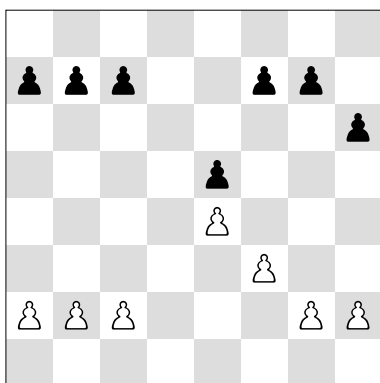Pawns are important. They have a number of different functions:
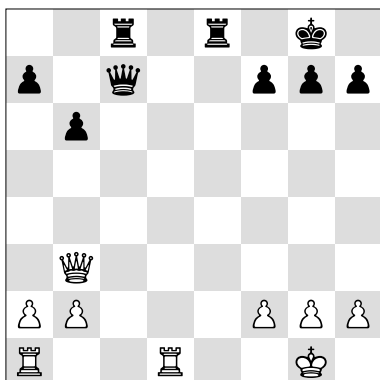
Protecting the castled king.

Defending pieces, by protecting them (Nf6, Nc3) and shielding them (Bd6).

Controlling squares, and thereby restricting the mobility of enemy pieces.

In both diagrams the pawns make up a formation. We refer to this formation as the **pawn structure**.
The pawn structure has not yet been fully determined.
On the left, only the pawns on e4 and e5 are fixed.
On the right, the structure is almost completely fixed.
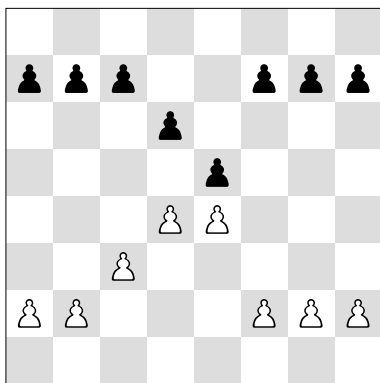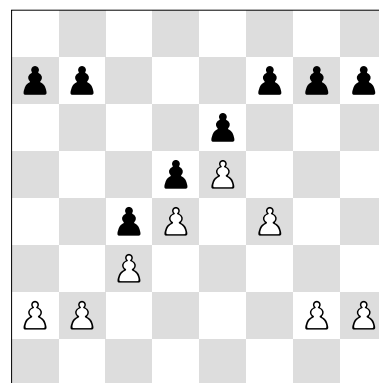
In positions where pawns can capture each other there is **tension**. On the left, d4 and e5 are attacking each other; hence, there is tension in the centre. On the right, there is tension in the cluster of pawns on c4, d4, c5 and d5. It is usually advantageous to maintain the tension.
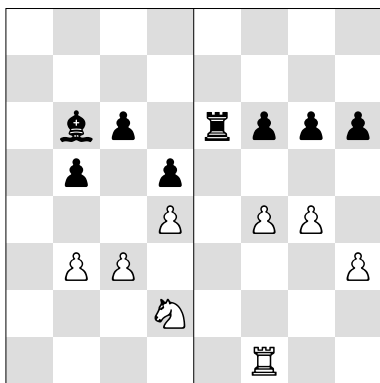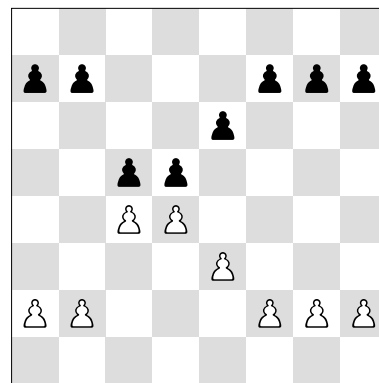
Demolishing the structure of your opponent can give you the advantage. Black demolishes the white structure with **1. ... b4**. This move leaves White with a weak doubled b-pawns. On the other side White plays the strong **1. f5**. On the right, **1. f6** demolishes the king's protective pawn shield.
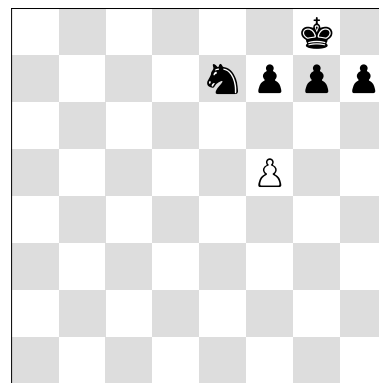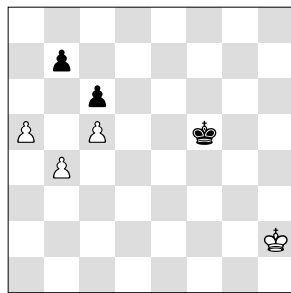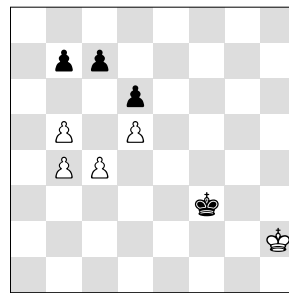
Breakthrough patterns

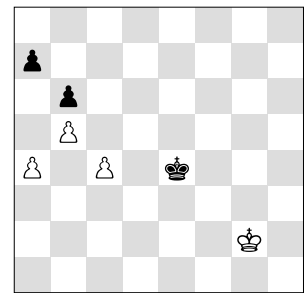Seeing a breakthrough in advance is useful. Knowing and recognising breakthrough patterns helps.
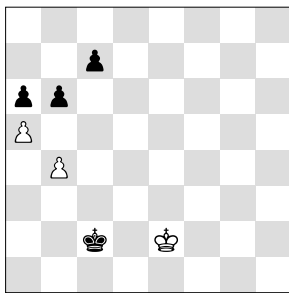
1. b5 axb5 2. a6

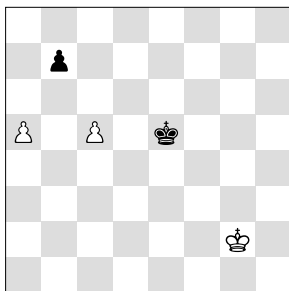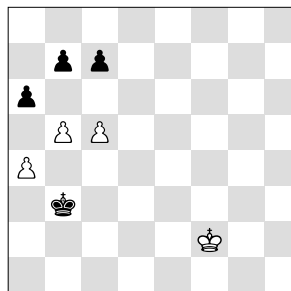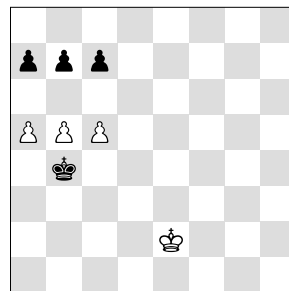1. b5 axb5 2. c6 (2. a6?)

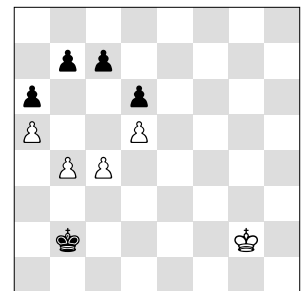1. b6 cxb6 2. c5

1. c5 bxc5 2. a5 Kd5 3. a6!

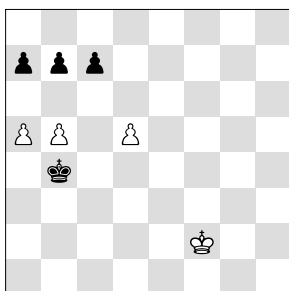1. c6 bxc6 (1 ... Kd6 2. cxb7) Kc7 3. a6) 2. a6

1. c6 (1. a5 c6) bxc6 2. bxa6
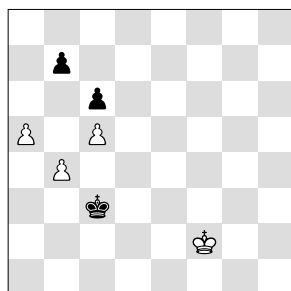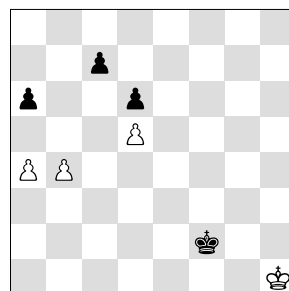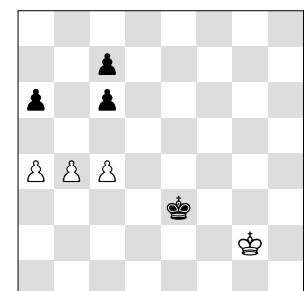
1. b6 axb6 2. c6 bxc6 3. a6

1. b5 Kc3 2. c5 (1. c5)

1. b6 axb6 2. axb6 cxb6 3. d6
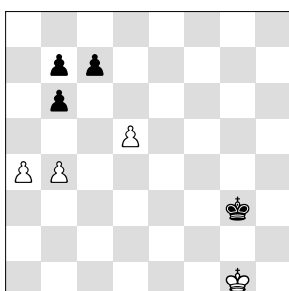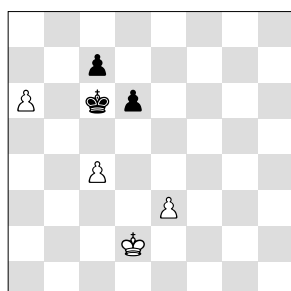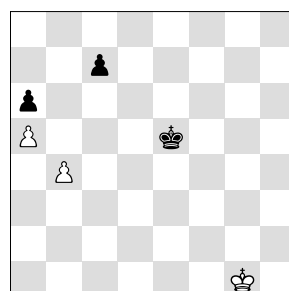
1. b5 cxb5 2. a6 / 2. c6

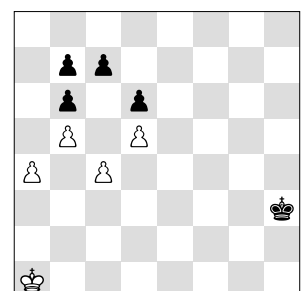1. a5 Ke3 2. b5

1. a5 Kd4 2. b5 Kc5 3. bxa6
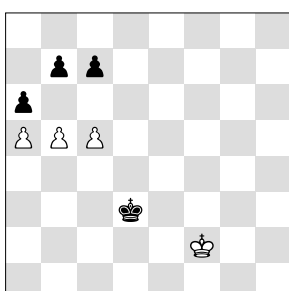
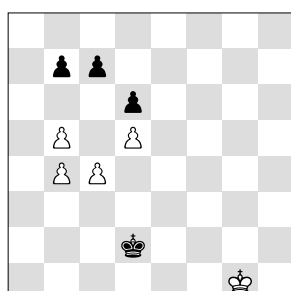1. b5 Kf4 2. a5 bxa5 3. b6 cxb6 4. d6

1. c5 dxc5 2. e4 Kb6 3. e5

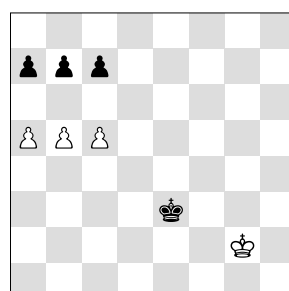1. b5 Kd6 2. bxa6 Kc6 3. Kf2

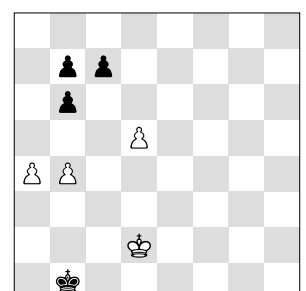1. c5 dxc5 (1. ... Kg4 2. a5) 2. a5 bxa5 3. b6

●

1. ... c6 (1. ... axb5? 2. c6)
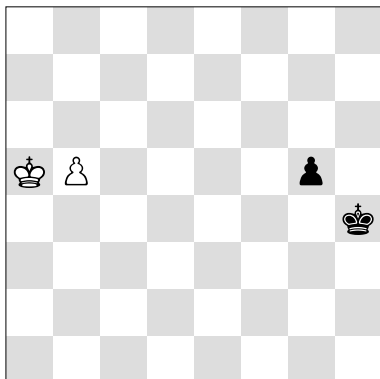
●

1. ... b6

●

1. ... b6

●

1. ... b5 2. axb5 b6

Pawn races

The march of passed pawns towards their promotion squares can be likened to a race. A lot of things can happen during such a race.

This race is not very exciting. The white pawn queens; the black pawn gets no further than the 3rd rank: **1. b6 g4 2. b7 g3 3. b8Q.**
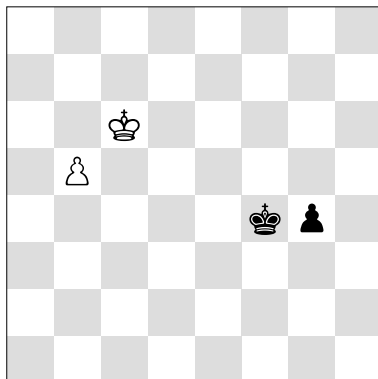
Both pawns require a further three moves. But note that White will queen with check on b8: **1. b6 g3 2. b7 g2 3. b8Q**.
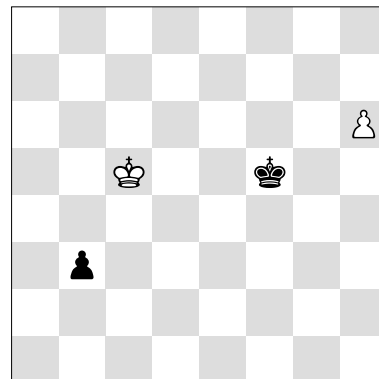
Reaching the finish line at the same time does not always lead to a draw. White has a winning X-ray check: **1. h7 b2 2. h8Q b1Q 3. Qh7**.
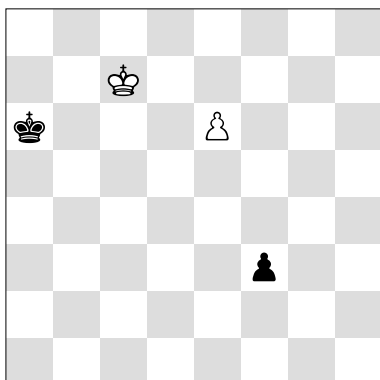
Another tie. This time there is no X-ray check. Rather, Black is mated after **1. e7 f2 2. e8Q f1Q 3. Qa4#**.
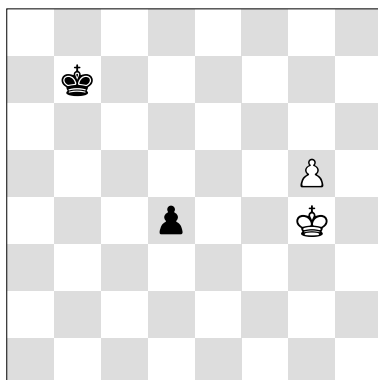
White's pawn marches on, but Black's pawn can be stopped. His king is outside the square of the pawn: **1. g6 d3 2. Kf3** and White wins.
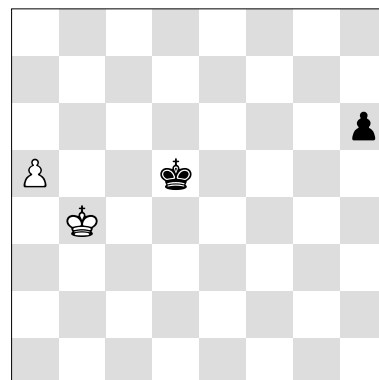
White is ahead, but the black king is inside the square of the pawn. White can use his king as a shield: **1. Kb5 Kd6 2. Kb6 Kd7 3. a6 Kc8 4. a7**.
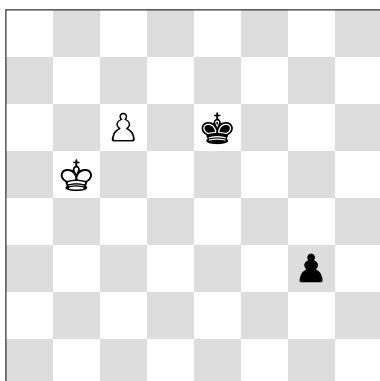
White must be careful. After 1. Kb6 Black queens with check. White must assist the pawn by: **1. Ka6 g2 2. c7 Kd7 3. Kb7**.
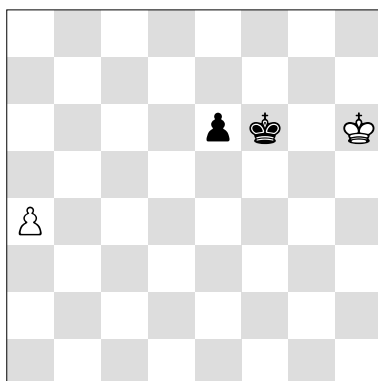
Racing ahead with 1. ... e5 is bad. White will pick up the new queen (Qf8+ and Qe8+). Black should go after the a-pawn with **1. ... Ke7**.
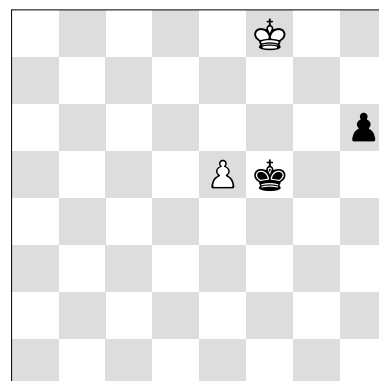
The white pawn is doomed while the black pawn is free to go. All the same, it's a draw with **1. Kf7** (threatening 2. e6) **1. ... Kxe5 2. Kg6**.

Discovered attacks

A double attack can be set up with the help of five different types of preparatory move:
- **luring**
- **eliminating the defence**
- **targeting**
- **chasing**
- **clearing**

The same types of preparatory move can be used to prepare a discovered attack. As you will probably recall, a discovered attack requires the presence of a battery. In some positions, the battery may not yet be effective or must first be set up. This is where the preparatory move comes in.
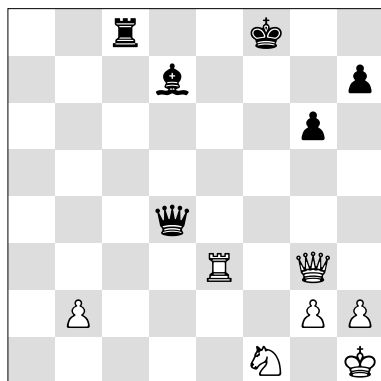
Targeting
This position does not contain a battery yet. White sets up a lethal battery with **1. Qf2+**. The target piece (the queen on d4) is already in place. It does not matter how Black gets out of check. On the next move White gives check with the rook and then picks up the queen.

Eliminating the defence
The battery Rd1/Bd3 is in place. It is as yet ineffective, since 1. Bxg6 Qxg6 does not give White anything. White must therefore chase away the knight on g6 with **1. h5**. The knight is lost. If it moves away, White will unleash the battery with **2. Bh7+**.

Clearing
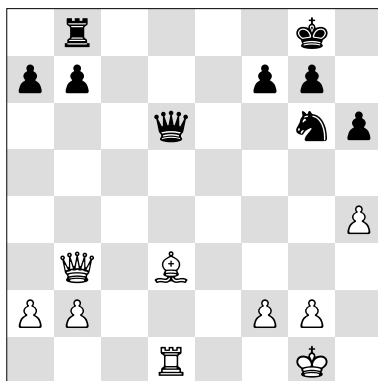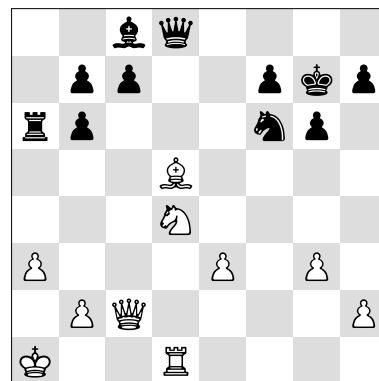The battery on the d-file does not yet work, since the rook's line of fire is obstructed by two of White's pieces. White needs to play two clearing moves. The best method is **1. Bxb7 Bxb7 2. Nf5+**, winning the queen.
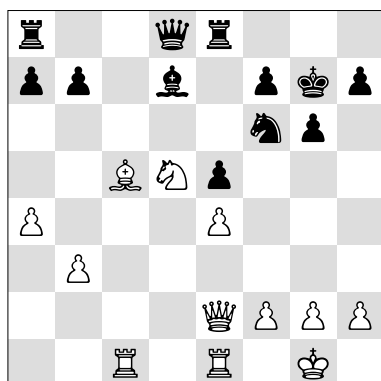
Luring
The battery on the c-file lacks a target to attack. White can lure the queen into the rook's range with **1. Nc7**, the point being that **1. ... Qxc7** is met by **2. Bf8+**. If Black does not take the knight, then White will win the exchange.
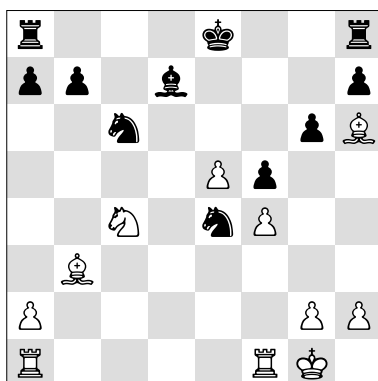
Chasing
The battery Bb3/Nc4 lacks a target to attack. The front piece (the knight) can give check. What is needed is a target for the back piece. We can find one by chasing the rook to g8; White wins material after **1. Bg7 Rg8 2. Nd6+**.
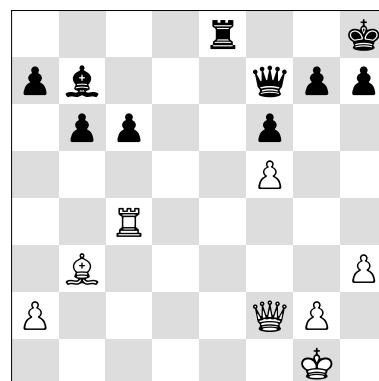
The back piece (Bb3) and the front piece (Rc4) are both ready. The back piece has an obvious target (Qf7). But what about the target of the rook? Is it the king? No. Material? No. A threat? Yes! It is mate after **1. Rh4 Qe7 2. Rxh7+ Kxh7 3. Qh4#**.

Pins

Pins are sometimes innocent, but the risk of losing material is always present. Winning material by 'pinning', 'attacking a pinned piece' or 'a pinned piece is not a good defender' is more difficult to achieve at this level. You need the well-known preparatory moves: besides **chasing** and **luring** (placing the front or back piece), you can use **eliminating the defence**, **clearing** and **targeting**.
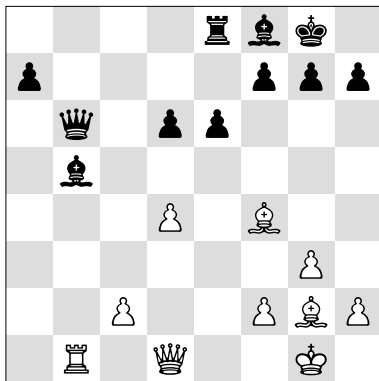
Attacking a pinned piece
An attack with a pawn is obvious. But not in these two diagrams. On the left **1. Bf1** (1. c4? Ba4 2. Qxa4 Qxb1) **1. ... a6 2. c4 Ba4 3. Qxa4** (3. Rxb6 Bxd1 is wrong) and Re8 is hanging. On the right **1. Bf1** (1. c4? Ba4 2. Rxb6 Bxd1) **1. ... a6 2. c4 Ba4 3. Rxb6** (possible: Qd1 is protected now) **3. ... Bxd1 4. Nxd1**.

Eliminating the defence
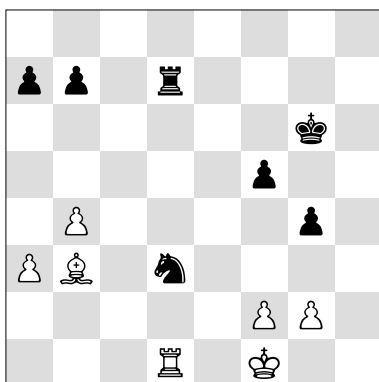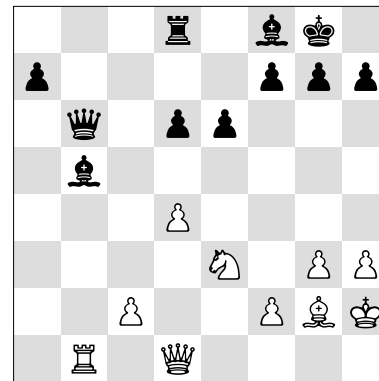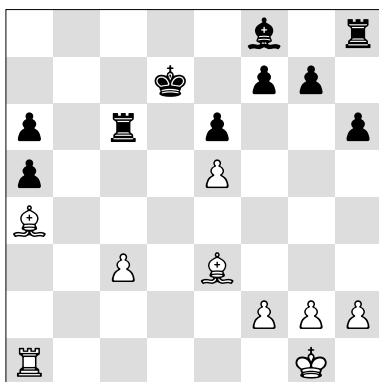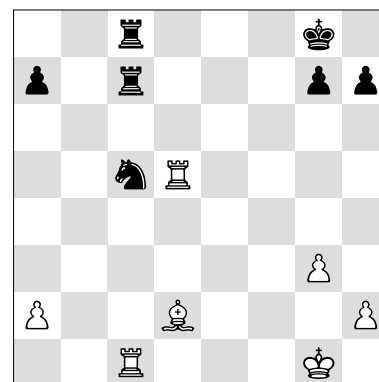On the left 1. Bc2 Ne5 is useless. White must do a little preparation: **1. Ba4 Rd5 2. g3!** (2. Bc2? Nf4). Now **3. Bc2** cannot be prevented. On the right White must attack the pinned piece a third time: **1. Bf4** (1. Be3 Nd7) **1. ... Rc6 2. Rd6 R6c7** (or else 3. Rxc6 Rxc6 4. Be3) **3. Rd2 Rc6 4. Rdc2** and **5. Be3**.

Eliminating the defence
On the left the rook on c6 is sufficiently protected. After **1. Bb6** (making use of the pin) Black is powerless against **2. Rd1+**.
On the right Black chases away the king (which is protecting the back piece) with check. After **1. ... Bd3+ 2. Kc1 Bxe2** the knight on c3 is no longer a good defender.
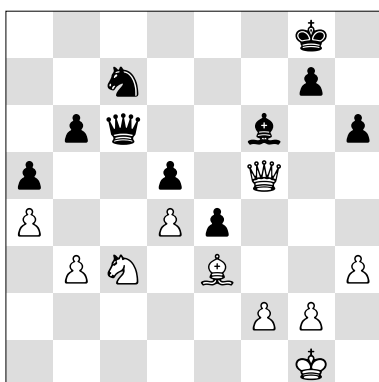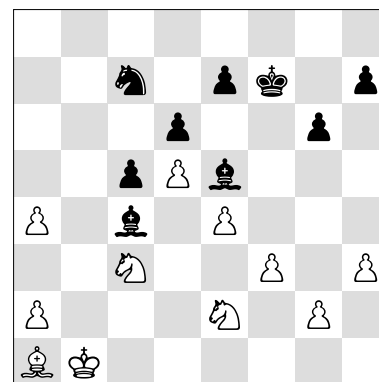
Targeting
On the left there is no pin. With **1. Qc8+** White sets up a pin with tempo. After **1. ... Kh7 2. Nb5** he wins the black knight.
Clearing
On the right the white d-pawn is in the way. After **1. Qc4** Black is forced to take: **1. ... Qxc4 2. dxc4**. Black loses the pinned knight.

Rook against pawn

The struggle between rook and pawn is tense if the king of the side with the rook is not too close by. If the following principles are correctly applied, this type of ending can be played correctly.

The win is easy if the king of the side with the rook is inside the square of the pawn and can approach it unhindered.
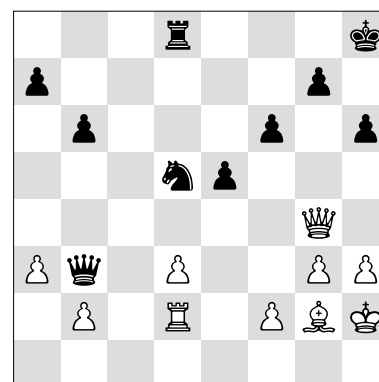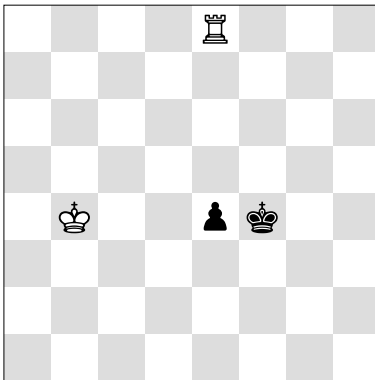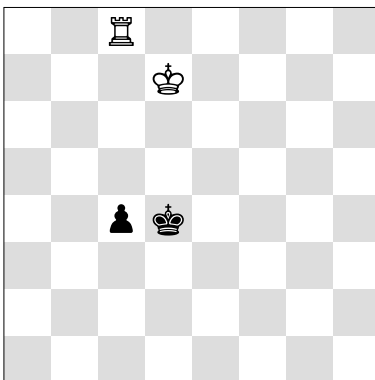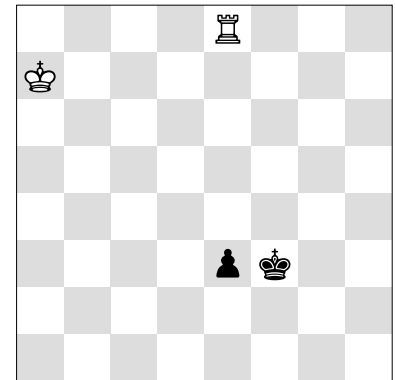On the left, White picks up the pawn after **1. Kc3 e3 2. Kd3**. The side with the pawn has an easy draw if the enemy king is too far away.
On the right, Black draws after **1. Kb6 e2 2. Kc5 Kf2**.

Strategy: side with the rook:
The king must approach the pawn from the side opposite to the enemy king. Thus, on the left White plays **1. Kc6 c3 2. Kb5 Kd3 3. Kb4 c2 4. Kb3**.
On the right, the king is unable to approach, so the side with the rook must drive away the enemy king: **1. Ra2+ Kf3 2.Ra8 e3 3.Rf8+ Ke2 4. Kg2**.
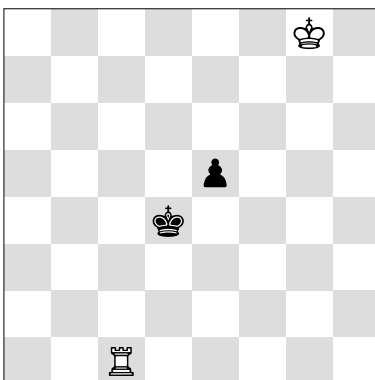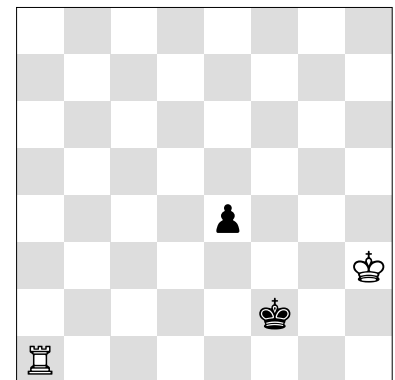
The king is on the correct side, but approaching the pawn directly does not work: 1. Kf7 e4 2. Kf6 e3 3. Kf5 e2 4. Kf4 Kd3 5. Kf3 Kd2. The rook is misplaced. Correct is **1. Rd1+ Kc3 2. Re1 Kd4 3. Kf7** and White is in time.
On the right: cutting off the enemy king on the 5th rank or higher is always winning: **1. Rf5 d3 2. Rf3**.
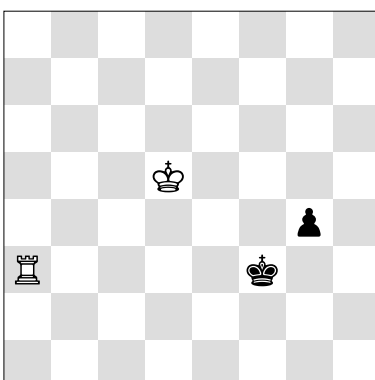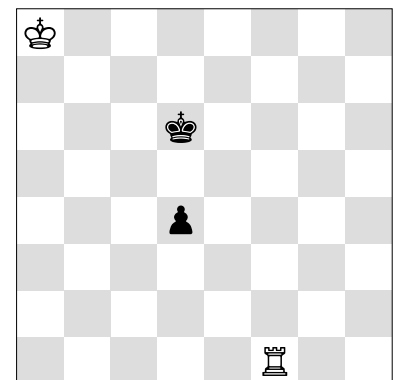
● **Strategy: side with the pawn**
Shielding off and advancing the pawn is all the pawn side can do. The former is usually better than the latter. On the left, Black draws with **1. ... Kf4**. He is lost after 1. ... Kf2 2. Ke4 g3 3. Ra2+.
On the right, 1. ... d3 loses. The right method is **1. ... Kd3 2. Kb5 Kc3 3. Rc8+ Kb3 4. Rd8 Kc3**.
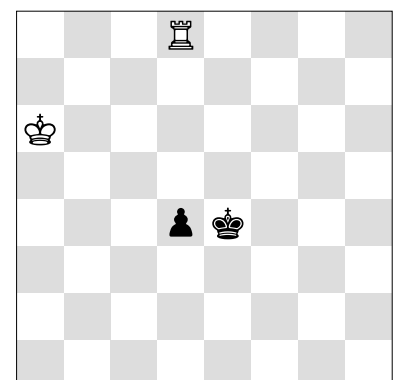
Strong squares

A square is strong if: • it cannot be controlled by one of the opponent's pawns;
• it is, or can be, occupied by one of your own pieces.

Strong squares are significant only if they are on or close to the part of the board where the action takes place. The battle for strong squares includes the following elements:

Creating a strong square
With **1. c4** White gains control of the square d5. This square cannot be controlled by any of the black pawns.

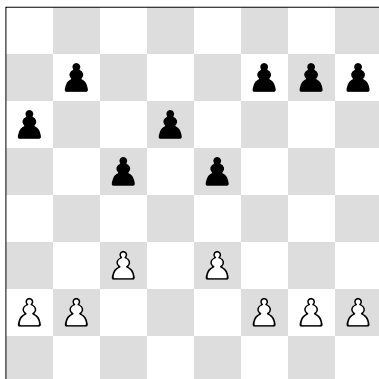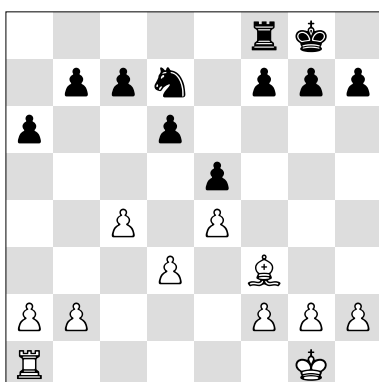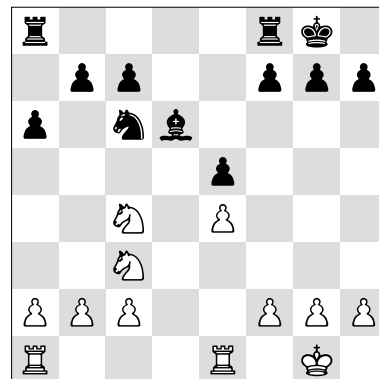On the right, White can create a strong square on d5 by taking on d6. The c7-pawn can then no longer control d5.

The route to a strong square
On the left Nd7 is better off on the strong square d4. This can be achieved with Nb8-c6-d4 or with gain of tempo: **Nd7-c5-e6**.
On the right, White is material down but has compensation in the form of a strong square on c4. He can reach c4 by **1. Nd2**. Note the function of the pawn on a5.
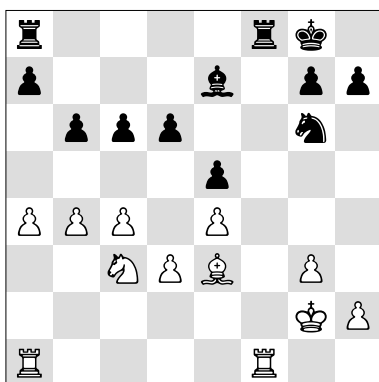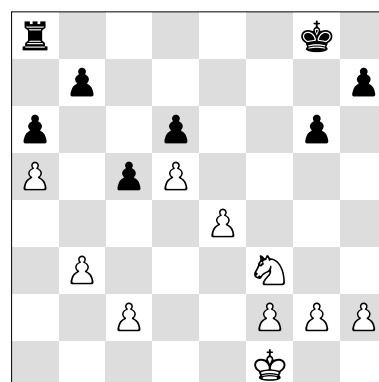
Eliminating the defender
On the left White cannot occupy d5, since it is protected by the c6-pawn. White can exchange this pawn with 1. b5, securing d5.

On the right, Black can eliminate the defender of d4 by **1. ... Bg4** and **2. … Bxf3**.
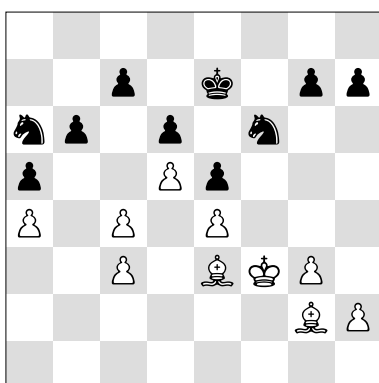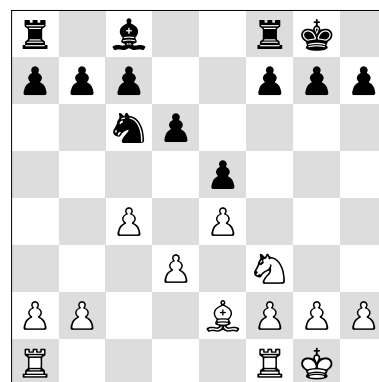
Denying your opponent a strong square
On the left, Black threatens to occupy a strong square with 1. ... Nd7 and 2. ... Nc5. Hence, White must play **1. Bh3**. On the right, White threatens to play his knight to d5. Black can prevent this with **1. ... a6 2. Bxc6** (otherwise 2. ... b5). Black conquers d5.
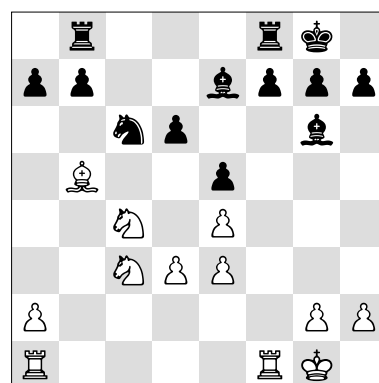
Defending

The following 9 positions contain examples of various defensive strategies. These include defending against mate, the loss of material and pawn promotion. We recommend that you study them well!
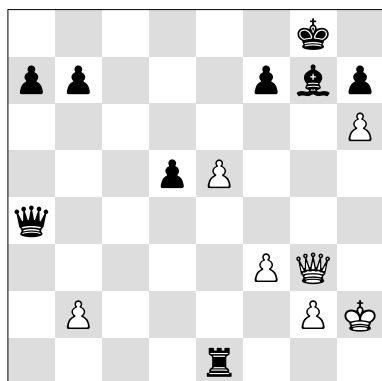
White threatens mate. Black cannot protect g7, but he can save himself with a counter pin: **1. ... Qf4 2. Qxf4 Bxe5.**

White threatens mate on e8. Black can protect e8 by means of a double attack: **1. ... Rh4+ 2. Kg3 Rh8.**

Black survives with the help of a pin and an intermediate move: **1. ... Qf7! 2. Rxf7 Rxd1+.**
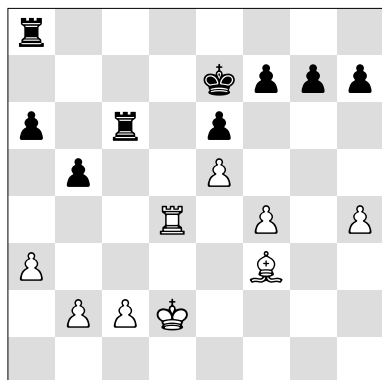
Black can escape the X-ray attack with a gain of tempo: **1. ... Rc4 2. Rxc4 Rd8+** (an intermediate check) **3. bxc4.** The rook is safe.
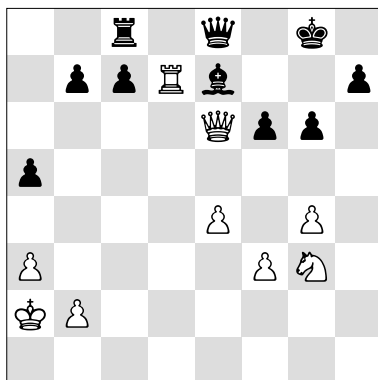
Sadly, 1. ... Kf8 2. Rxe7 Qxe7 3. Qxc8 fails. Black can avoid the double attack by trapping the rook: **1. ... Qf7 2. Rxe7 Qxe6+ 3. Rxe6 Kf7.**

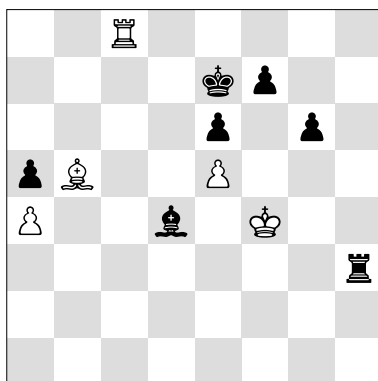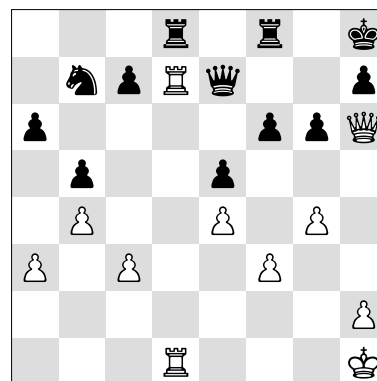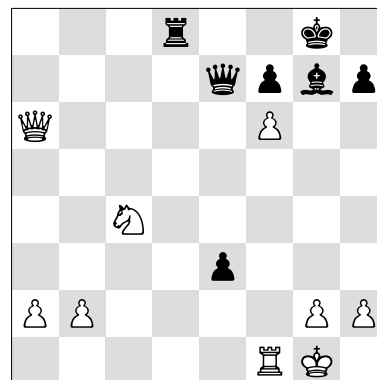Black's gamble **1. ... e2** (1. ... Bf6!) paid off; after **2. fxe7 Bd4+** White resigned. White could have won with **3. Ne3!** (**X-ray protection** of f1).
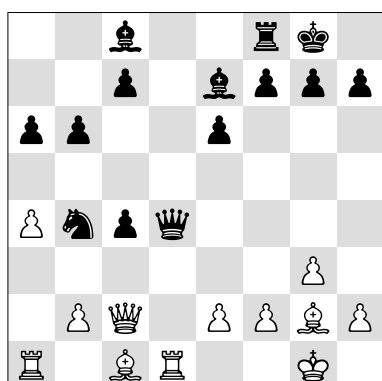
Black counterattacks. Is there a better move than 1. Qd2? There is! **1. Qxh7+ Kxh7 2. Rxd4**, and **2. ... Nc2** is met by **3. Be4+**. White remains an exchange up.
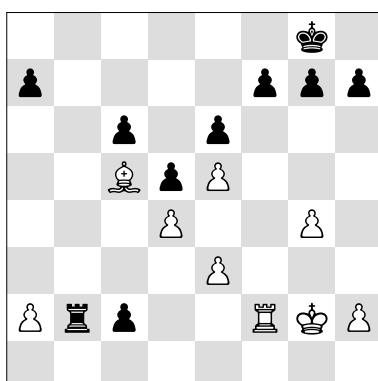
The c-pawn cannot be won without losing material, but the new queen can. After **1. Ba3 c1Q 2. Rxb2** White wins with a discovered attack.
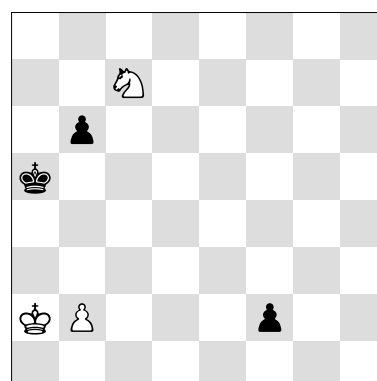
The knight can cover f1 with a gain of tempo: **1. Ka3! b5 2. b4+ Kb6 3. Nd5+ Kc6 4. Ne3** winning. The passed pawn is stopped with the help of a double attack.

Rook endings

Rook endings occur quite often. It is therefore important to be able to recognise winning and drawn positions. In each of the following positions White is a pawn up. A win or a draw?
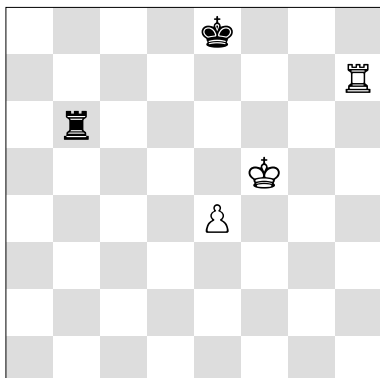
The black king is **in front of** the pawn. This is the best spot for a defending king. All the black rook needs to do is move back and forth on the 6th rank until the pawn reaches e6. Then the rook must be played to the 1st rank to check 'from behind': **1. ... Ra6 2. e5 Rb6 3. Ra7 Rc6 4. e6 Rc1 5. Kf6 Rf1+**. Black continues to give check.

A similar situation, but much less favourable for Black, whose pieces are restricted to the back rank. Since the rook is tied to the back rank, the defensive method as illustrated in the previous example is not available. White has an easy win; after **1. Rg7+ Kf8 2. Rh7 Kg8 3. f7+ Kf8 4. Rh8+** he nets the black rook with an X-ray check.

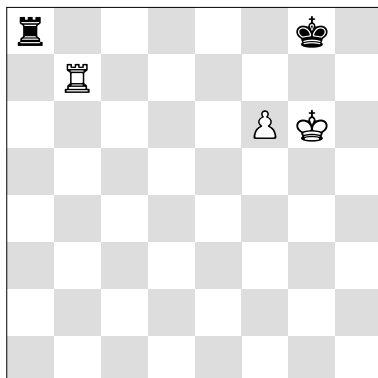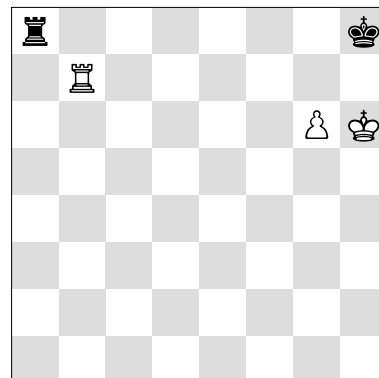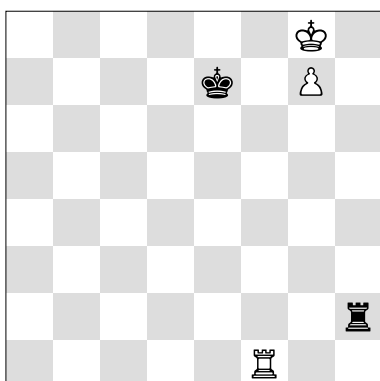This position differs from the previous one: the kings and the pawn have been moved one file to the right. This one file means the difference between a win and a draw. After **1. Rh7+ Kg8 2. Rg7+ Kh8** the board turns out to be too small and White is unable to win. There is not enough room for the white rook to the right of the king.

The defending king is cut off. White wins with **1. Re1+ Kd7 2. Re4!** (a move to remember!) **2. ... Rh1 3. Kf7 Rf1+ 4. Kg6 Rg1+ 5. Kf6 Rf1+ 6. Kg5 Rg1+ 7. Rg4**. This winning method is called **building a bridge**. White cannot make any progress without 2. Re4. 2. Kf7 is met by 2. ... Rf2+ 3. Kg6 Rg2+ 4. Kf6 Rf2+ 5. Ke5 Rg2 and the king is forced to retreat.
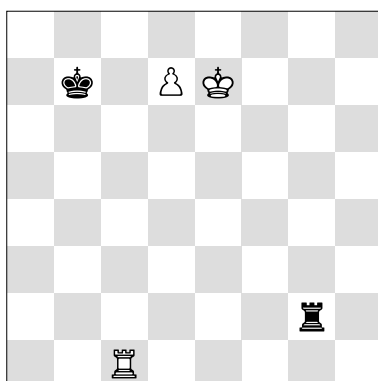
The distance between the king and the enemy rook is an important factor in rook endings. The more distant the check, the more effective it is.
In this position the distance is too small. After **1. ... Rg7+ 2. Ke8 Rg8+ 3. Kf7 Rh8** (3. ... Rd8 4. Ke7) **4. Rh1 Rd8 5. Ke7**.
Although **4. ... Rxh1** is better, Black will still draw the short straw after **5. d8Q**.
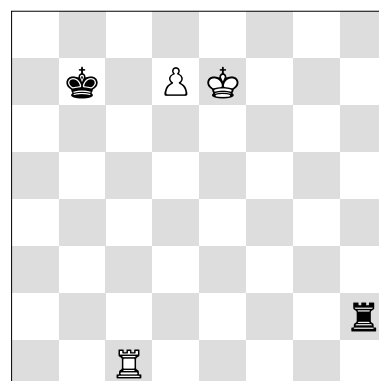
Here the distance between the white king and the black rook is sufficiently large for a draw. If Black keeps giving check, he can obtain a draw: **1. ... Rh7+ 2. Ke6 Rh6+ 3. Ke5 (3. Kf5 Rd6) 3. ... Rh5+ 4. Ke4 Rh4+ 5. Kd3 Rh8** and Black wins the pawn.
It is important that in this type of positions the defending king is on the 7th rank, and not on the 8th rank.

Open files

Files without pawns are called open files. Open files can be used to invade the opponent's position. Such an invasion is most effective on the 7th rank, since this is where most of the opponent's pawns are positioned. Working with open files involves four different, but related aspects:

- opening a file
- using an outpost
- gaining control of an open file
- preventing the opponent from using an open file
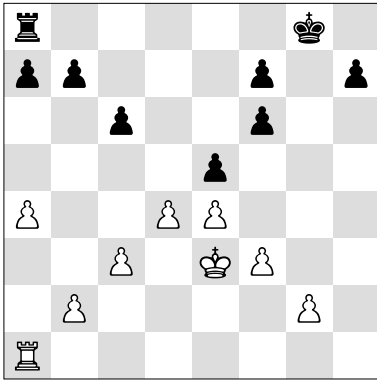
Opening a file
White opens the d-file by
1. dxe5, thereby undoubling Black's f-pawns. The first is more important, since White can occupy the open file. After **1. … fxe5 2. Rd1** the rook can go to d7. We know from the lesson on the 7th rank that the rook is very active there.
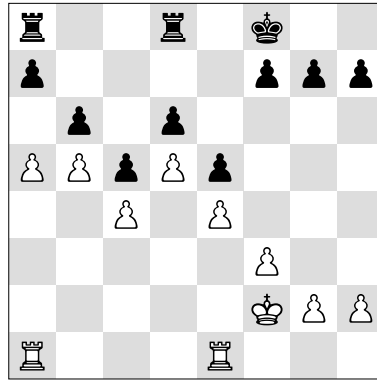
Opening a file
Although White can open the a-file with 1. axb6, he cannot actually seize it. The right strategy in this position is to wait with opening the file. White should first play
**1. Ra3** and **2. Rea1** and only then take on b6. Black will then have to give up the a-file.
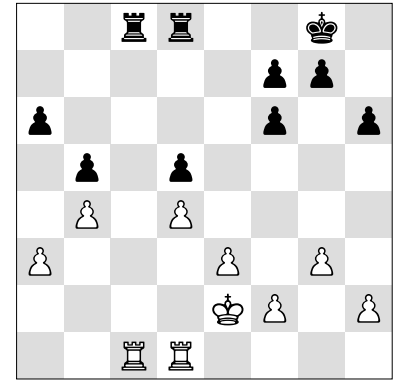
Using an outpost
White cannot gain control of the c-file at once. He must threaten to double his rooks with **1. Rc5**. After **1. … Rxc5 2. dxc5** White gets a protected passed c pawn, while Black is left with a vulnerable pawn on d5. If Black does not take, he will lose control of the c file.
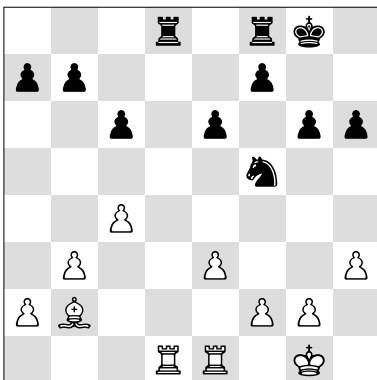
Take control of an open file
In this position White and Black are both controlling the d-file. White can chase away the black rook with **1. Bf6**. White gains control of the d-file, regardless of whether Black takes on d1 or moves his rook away.
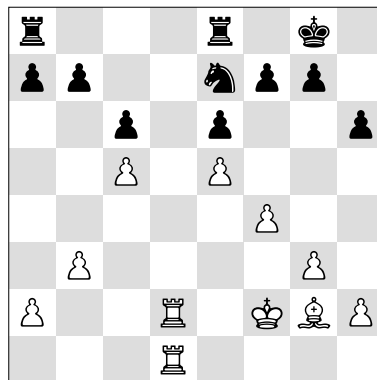
Defend against an open file
It would appear as though White is controlling the d-file. Black is unable to oppose the rooks. However, he can make sure that the white rooks will not invade his position. Black can seal off the d-file with **1. … Nd5**.
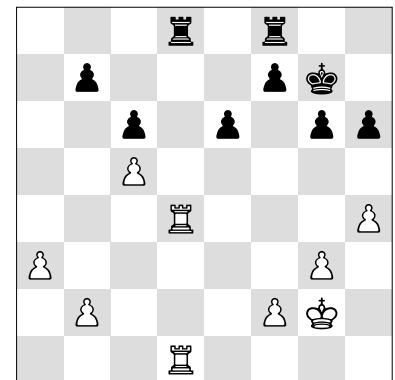
Defend against an open file
Black must prevent the white rook from invading the 7th rank. Exchanging on d4 does not help; rather, Black must create an outpost with **1. ... Rd5**. After **2. Rxd5 exd5 3. Re1 Kf6** the white rooks are effectively harmless.

Draws

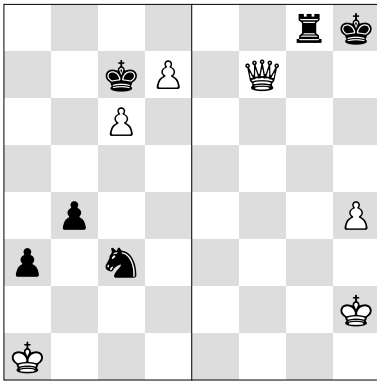In bad positions you can try to play for a draw. This can be achieved by forcing stalemate or by making sure that your opponent is left with insufficient material to win.

Forcing stalemate
When your own king cannot move anymore, give away your last pieces. On the left, White gives away his pawns: **1. d8Q+ Kxd8 2. c7+** and Black has to take the pawn now or on the next move. On the right, Black gives up his rook: **1. ... Rg2+ 2. Kh3 Rg3+**. If White takes, it is stalemate. Black has what is called a 'rampant rook'.
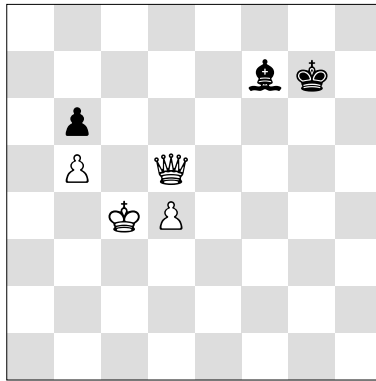
The king can still play
The black bishop can take the queen, but the resulting pawn ending is totally lost. Again, Black can save himself by stalemating his king. After **1. ... Kh8** White has nothing better than **2. Qxf7** (after a king move Black would be winning!) and Black is stalemated.
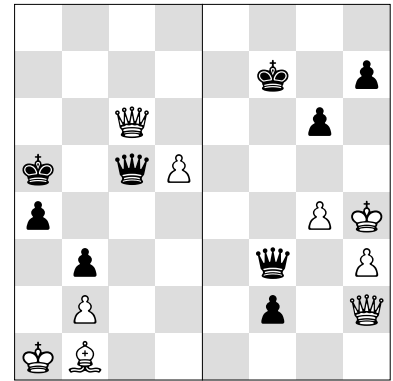
A piece can still play
On the left, Black can still play with his king, his queen, and his a-pawn. However, he can obtain a draw with **1. ... Qa3+**. After **2. bxa3 b2+** Black escapes with a draw. On the right, the g-pawn is pinned. White can save himself with the strong move **1. Qf4+**. After **1. ... Qxf4** it is stalemate.
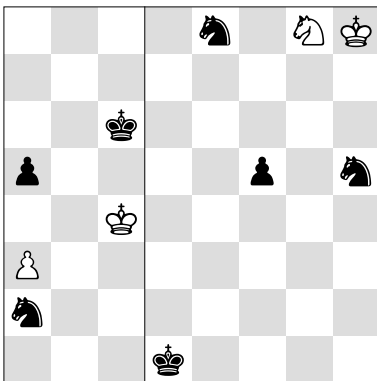
Mate is no longer possible
Winning with a knight alone is impossible. All White has to do is get the black a-pawn. After **1. Kb3 Nc1+ 2. Ka4** White wins the a-pawn or is stalemated after **2. ... Kb6**. On the right, White is after the f-pawn. He can obtain a draw with **1. Ne7 f4 2. Ng6 f3 3. Ne5 f2 4. Ng4 f1Q** (4. ... f1N 5. Nf6!) **5. Ne3+**.
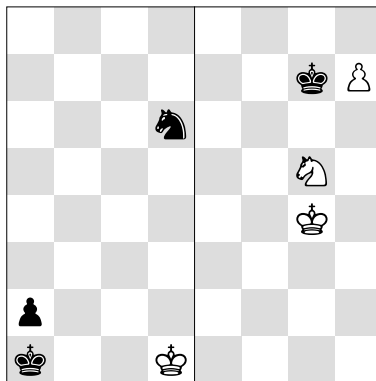
The pawn: advanced too far
In both parts a 4-point material plus does not suffice for a win. On the left, the black king is trapped after **1. Kc1**. The knight is unable to chase the king away from both c1 and c2. On the right, Black keeps moving his king from g7 to h8 and back. White must lose the h-pawn or allow stalemate.
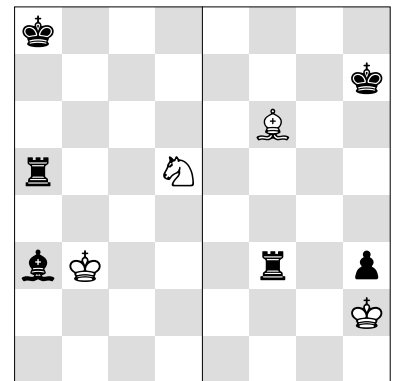
Insufficient material plus
Being an exchange up in the absence of pawns is usually insufficient for a win. On the left, White obtains a draw after **1. Nb6+ Kb7 2. Nc4** and **3. Nxa3**. On the right, White wins the h-pawn after **1. Bh4 Kg6 2. Bg3 Kg5 3. Kxh3**. With correct play, Black's material plus is insufficient.
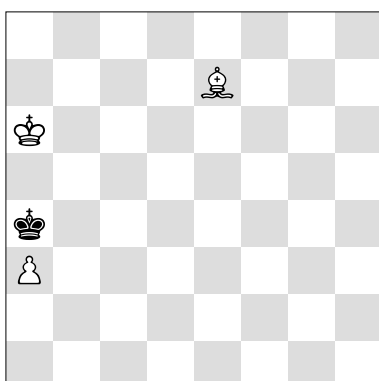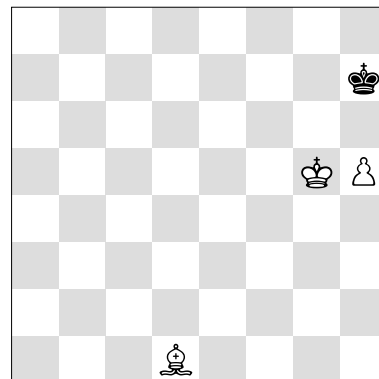
The wrong bishop

Suppose that your opponent has only his king left. You still have material on the board, but, unfortunately, you are unable to give mate. This is the case when you have a knight, a bishop or a pair of knights (a six-point plus!). Tough luck! Under very special circumstances, the combination of a bishop and a pawn is also insufficient to win the game. In such cases we call the bishop **the wrong bishop**.
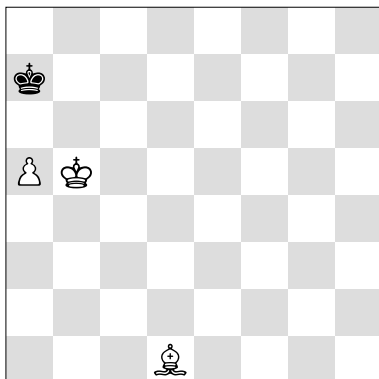
On the left, the side with bishop and pawn has an easy win. For instance: **1. a6 Kb8 2. Kb6 Ka8 3. Be4+ Kb8 4. a7+**.

On the right, we have a similar position, but a quite different result! The bishop and the corner square are not of the same colour. After **1. h6 Kh8 2. Kg6 Kg8 3. h7+** or **3. Bb3+** Black is stalemated.

A bishop whose colour is different from that of the corner square is a 'wrong bishop'. If the defending side has his king in the corner or within reach of the corner, it's a draw. On the left, this is not the case. The pawn marches on after **1. Bb4 Kb3 2. Kb5**. On the right, the king cannot reach a8: **1. Kd5 Kd7 2. Bf4! Kc8 4. Kc6**. White wins.
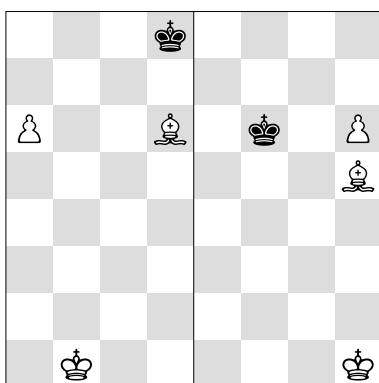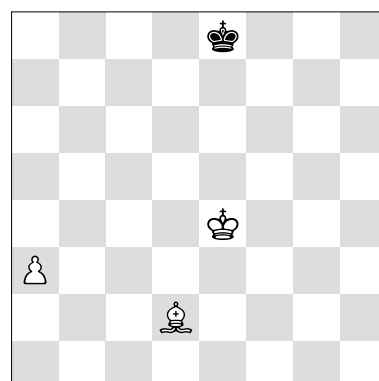
On the left, the combined force of bishop and pawn denies the black king access to the corner. Black is helpless after **1. ... Kc8 2. Kb2**. The same is true on the right of the diagram. Here **1. Kh2 Ke7 2. h7** wraps up.

On the right, assistance of the king is required: **1. Bh7! Kf6 2. Kf4 Kf7 3. Kf5 Kf8 4. Kf6** winning.
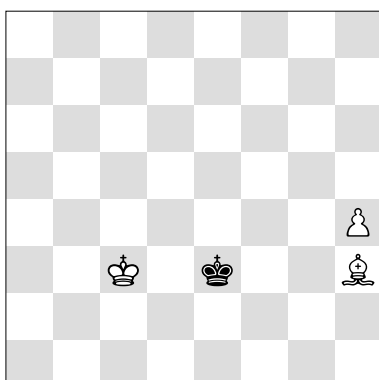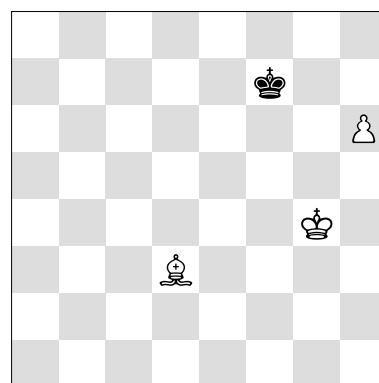
● In the final two positions the defending king manages to reach the corner. On the left, Black salvages a draw with **1. ... Ke4** (and not 1. … Kf4 2. Kd4) **2. h5 Ke5**, and Black is en route to the sanctuary on h8. The correct move on the right is **1. … Ke7**. Bad is 1. … Ke8? 2. Bd5 Ke7 3. Kg5, and the king will not reach the corner.