# The Chesst Mark Scheme

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# Note to Markers

- Although strong efforts have been made to award marks for all situations, this mark scheme is not comprehensive; if you find answer correct that is not on this mark scheme, you may award it full marks.
- Note that some answers may be vertically symmetric, horizontally symmetric (without pawns) and rotationally symmetric (also without pawns) to the correct answer.
- **A** indicates an answer mark, and **M** indicates a methods mark.
- Plain English, or an alternative but both understandable and unambiguous chess notation is permitted to use instead of standard algebraic notation.
- Participants have been instructed to denote white pawns, knights, bishops, rooks, queens, and kings by the letters P,N,B,R,Q and K. To denote black pieces, they have been instructed to add an apostrophe afterwards (i.e P',N',B',R',Q' and K').

# Section 1

**A1** a) **1.** Nxb6+ exb6 **2.** Qxf7 **or** Nxb6 with description.

**A1** b) **1.** Rxd5 **and** move rook out of way/take back with bishop after exd5 for inescapable mate.

**A1** c) **1.** Rxa6 Ra2 **2.** Qxb1+ Kxb1 **3.** Nc3+ Ka1 **4.** Na2 Kb1 **5.** Nc3+ Ka1 **or** ...4. Na2 black knight moves, Bd4.

**A2** d) **1.** Bf6+ Kg8 **2.** Nh6+ Kf8 **3.** Bg7+ Ke8 **4.** Ba4+ Kd8 **5.** Nf7+ Kc8 **6.** Nd6+ Kd8 **7.** Bf6#

**A2** e) **1.** b3 Ka5 **2.** Bb5 a6 **3.** b4#

**A2** f) **1.** Be7+ fxg6 **2.** Qd4+ Bxd4#

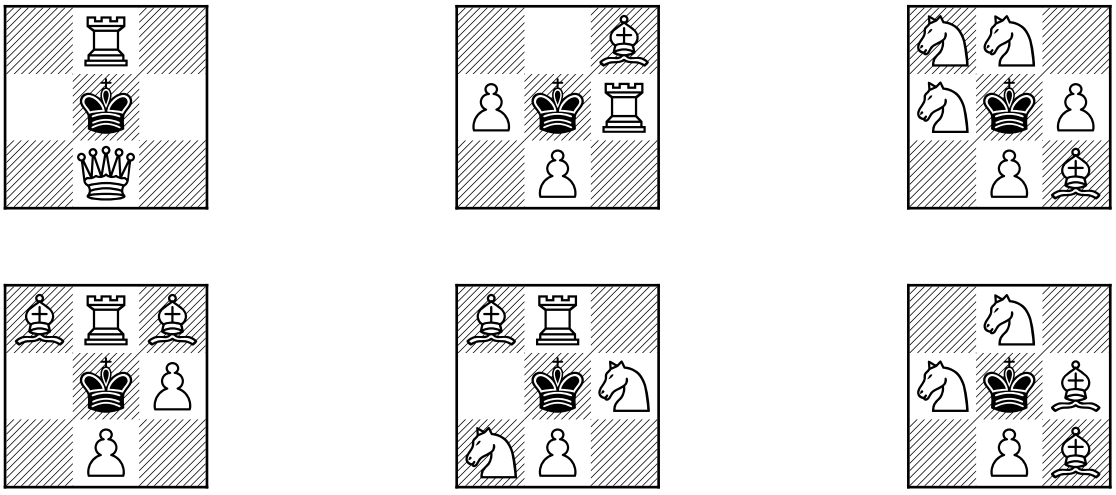
**M1A2** g) **1.** Bxa5 bxa5 **2.** Kxa5+ *and* the intention to fork with knight on c6.

**M1A2** h) Nc3 traps the queen, guaranteeing capture.

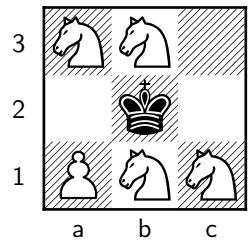
**M1A2** i) **1.** Rxf6+ Qxf6 **2.** Nxf6+ Rxh5+ and either knight captures or king captures avoids checkmate.

# Section 2

The top 3 are worth 1 mark each, and the bottom three are worth 2 marks. Condone the use of 'K' for knight and/or other viable solutions (often reflections or rotations).



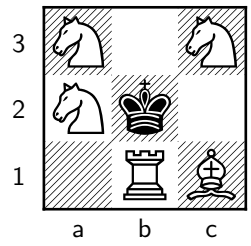
The last three questions are 1 marks for the correct answer, and 2 marks for the explanation, with the exception of the last, which is 1 mark for each answer, and 1 for the explanation




**M1** No knight can check the king, so a pawn must check it.

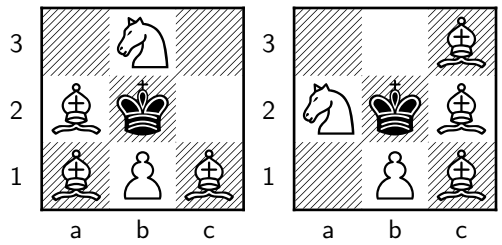
**M1** Each knight can target a maximum of 2 squares, so a minimum of 4 is required for the 8 remaining.

Knights and bishops only target a max of 2 tiles of one colour. Black=B and White=W




**M1** An edge rook leaves 2 B squares which can't be covered by one piece. The remaining 3 White squares also need two pieces.

**M1** A corner rook: Leaves 2 W squares which cannot be covered by one piece; same reasoning applies as above.



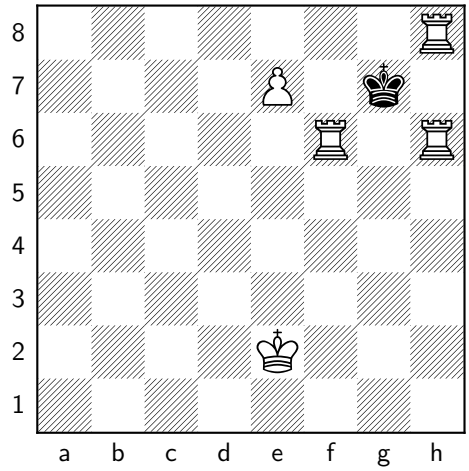

**M1** All pieces protect a maximum of 2 squares. 9 squares need to be covered hence 5 pieces must be used total.

# Section 3

**A1** a) It is not, as the revealing piece may be defending a square; by moving it the square can be undefended.

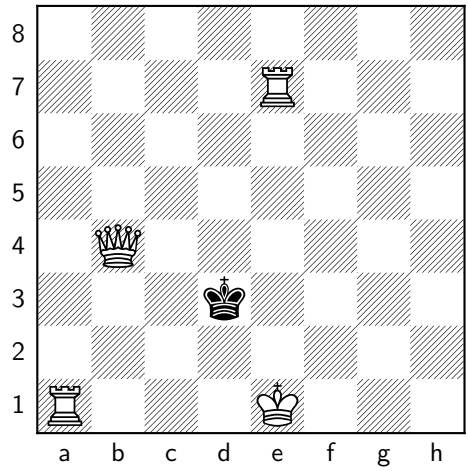
**A1** b) No, as the opponents pawn could be revealing a check, making en passant impossible.

**A1** c) There does where the pawn turns into a knight, such as below:

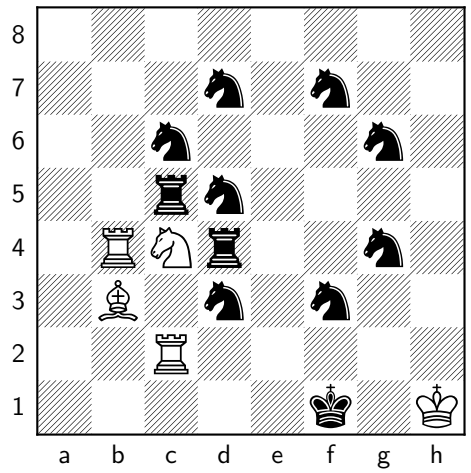



d) +17 **(A1)** pawn takes queen and promotes to queen. **(A1)**

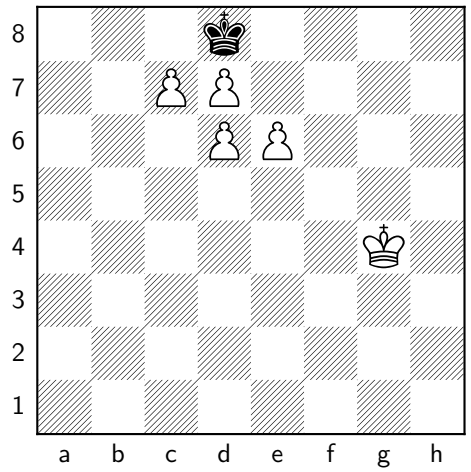
e) No **(A1)** because the king covers a single escape tile **(A1)**. Alternatively, a suitable example such as below earns full marks:



f) 10 **(A1)**, A queen cannot reveal attacks and can attack 8 pieces at once, but a knight can reveal attacks and also attacks 8 pieces at once . From any position, the knight reveals 1 diagonal axis and two straight axes with which to reveal**(A1)**. Alternatively, a suitable example such as below earns full marks:

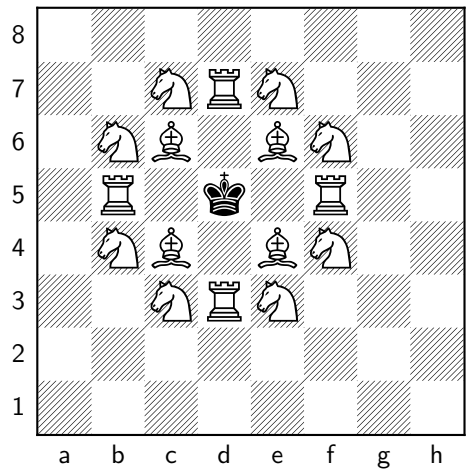


g) 4 **A1** No piece on their own can mate a king, and pawns can only target two squares at once **(M1))** and the king on an edge or corner has a square in which defending it with a pawn, defends an unneeded tile **(M1)**. Alternatively, a suitable example such as below earns 2 marks, with the third granted if possible in a game:



h) Each capture can change the file of 1, and only one pawn **(M1)** and since each pawn is blocked until it, or the pawn blocking it, changes file, at least 8 moves are required**(M1)**. This can be met by having the pawn blocking move into a passed position when it changes file **(A1)**.

**M1A2** i) A position described or written such as below demonstrates all possible checks:




Every square is covered at least twice hence removing two knights (defending a bishop) and replacing a bottom bishop with a pawn gives us a maximum of 14 **(A1)**. Alternatively you can remove opposing rooks. 2 rook combinations, and 3 pawn combinations on the base gives 6 combinations in this case. If both bottom bishops are pawns you have one case by removing knights. and if one is a pawn you also have one case removing knights **(M1)**. This gives you 8 cases total **(A1)**.

# Section 4

1 mark is awarded for guessing which are impossible, and another for the reason. 2 marks are given for finding possible boards

a) Impossible as the pawn on c4 comes from the e file, but only one black piece is missing, so it can't have crossed two files.

b) Impossible as the bishop on f6 cannot have left its start positions as its pawns are unmoved **and** white has all their pawns, and therefore cannot have gotten that bishop through promotion.

c) Impossible as the black king is checked three ways but there are no suitable reveals for white for it to be checked in one move.

d) Impossible as black is missing only one piece but two white pieces are stacked.

e) Impossible as the white bishop has no origin square to check the black king with **and** there is no square from which a piece could reveal the bishop.

f) Impossible as the white square bishop is the only white piece captured, but the black pawn captured on a black square.

g) Possible

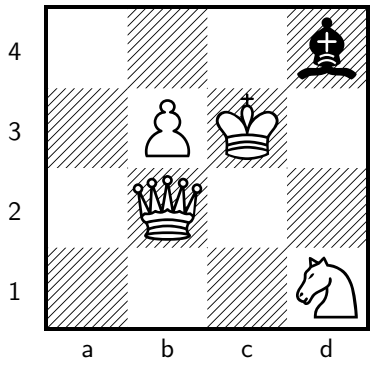
h) Possible

i) Possible

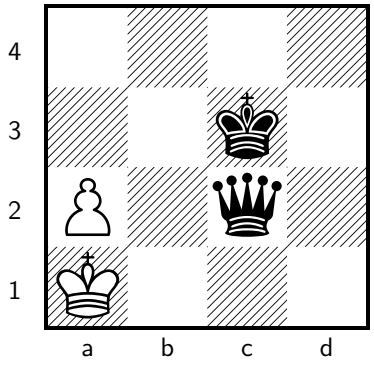
# Section 5

The first three award 1 mark for the correct answer. The next three 2 marks for the correct answer and the last three 3 marks for the correct answer.

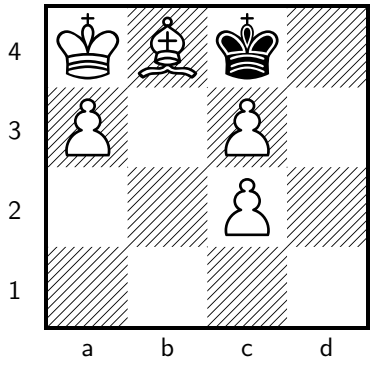
a)



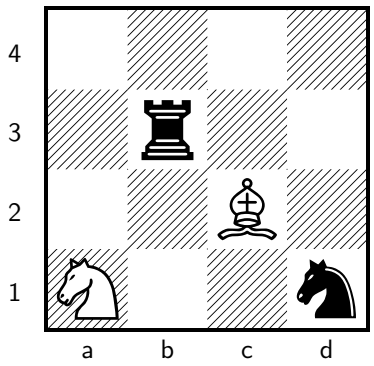

b)



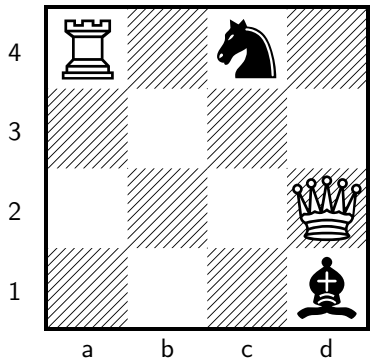

c)



d)

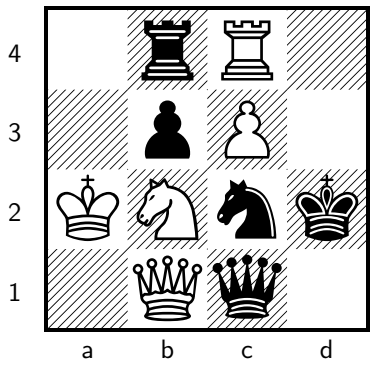



e)

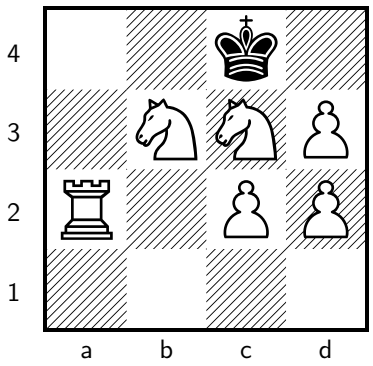



Condone other colour possibilities (such as all white).

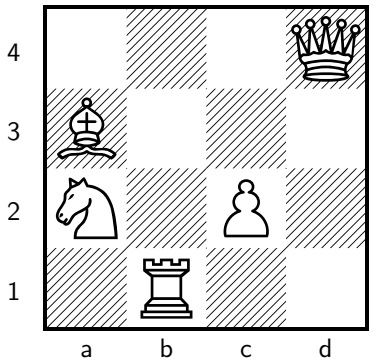
f)



g)




h)




i)