



# THE PUZZLING SIDE OF CHESS

Jeff Coakley

## A HANDFUL OF PIECES

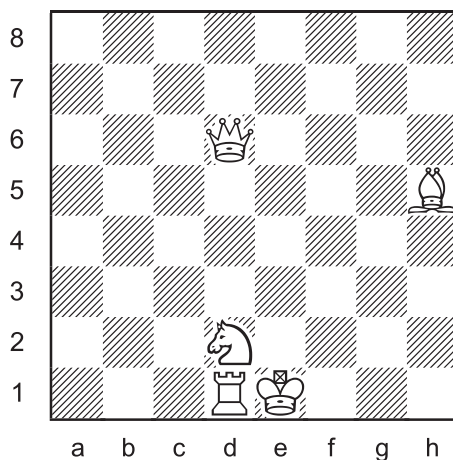
number 67

September 13, 2014

Today's menu features a variety of puzzles with five white pieces: king, queen, rook, bishop, and knight. Sometimes we add in the black king. So please grab a board and find a seat. Your waiter will be right over.



### Triple Loyd 33

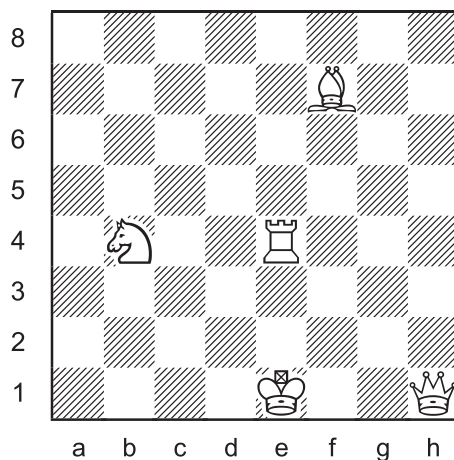


Place the black king on the board so that:

- A. Black is in checkmate.
- B. Black is in stalemate.
- C. White has a mate in 1.

For more information on triple loyds, see column 56 in the archives.

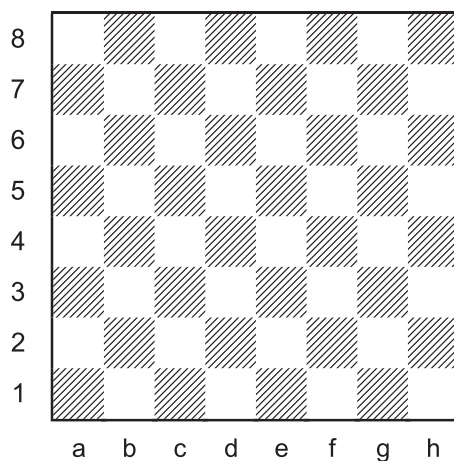
### Triple Loyd 34



Place the black king on the board so that:

- A. Black is in checkmate.
- B. Black is in stalemate.
- C. White has a mate in 1.

### Double Defensive Loop



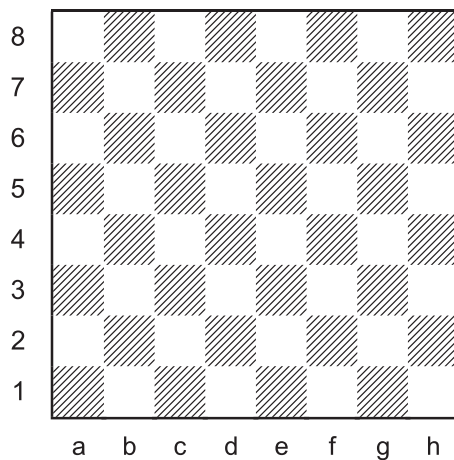
Place a king, queen, rook, bishop, and knight on the board so that each piece is defended exactly twice and each piece defends exactly two other pieces.

This is a tough puzzle. For quite a while, I thought it was impossible.

For other *defensive loops*, see columns 15, 18, 24, 36, 59.

The following problem has two parts, with and without discovered checks. In *part b*, each different move by a piece that uncovers mate is counted separately.

### Construction Task 5



Construct a position with a white king, queen, rook, bishop, and knight against a lone black king so that White has the most mates in 1.

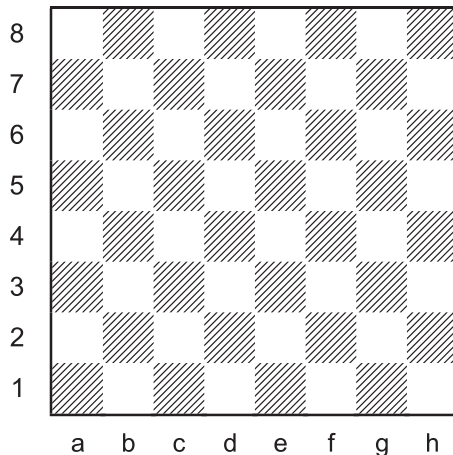
- 5a. Discovered checks are not allowed.
- 5b. Discovered checks are allowed.

Constructed positions must be legal. In other words, they must be reachable from an actual game. To show that a position is legal, find two previous moves (one white, one black) that would lead to the position. The usual difficulty is that Black was in an impossible double check on the previous turn.



For more construction tasks, see columns 15, 24, 37, 59.

### KQRBN Maximizer



Place a king, queen, rook, bishop, and knight on the board so that ...

- a. they have the most moves.
- b. the most squares are attacked.
- c. none of the pieces guard each other and the most squares are attacked.

A reminder for *part b*: a piece does not attack the square it stands on.

For similar puzzles, see columns 59, 60, 63.

### KQRBN Minimizer



Place a king, queen, rook, bishop, and knight on the board so that ...

- a. they have the fewest moves.
- b. the fewest squares are attacked.
- c. none of the pieces guard each other and the fewest squares are attacked.

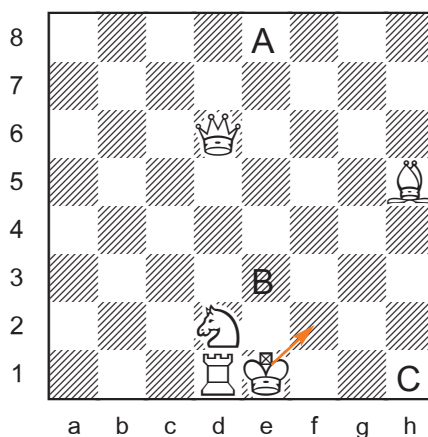
Entries have started rolling in for the *2014 Chess Cafe Puzzlers Cup*. Will you be joining in the fun? The deadline is October 31. Our operators are standing by.

## SOLUTIONS

All problems, except *KQRBN Maximizer part c*, are by J. Coakley. *Construction Task 7* is from *Winning Chess Puzzles For Kids Volume 2* (2010). The others are *ChessCafe.com* originals (2014). Thanks to an assist from *Caisay 4.1* on the maximizer and minimizer puzzles.

*PDF hyperlinks*. You can advance to the solution of any puzzle by clicking on the underlined title above the diagram. To return to the puzzle, click on the title above the solution diagram.

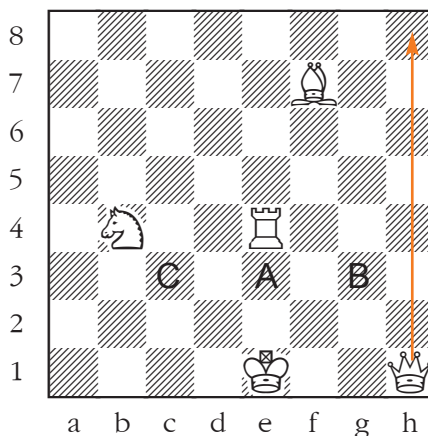
### Triple Loyd 33



- A. Ke8#
- B. Ke3=
- C. Kh1 (Kf2#)

A discovered check by the king is always worth a chuckle.

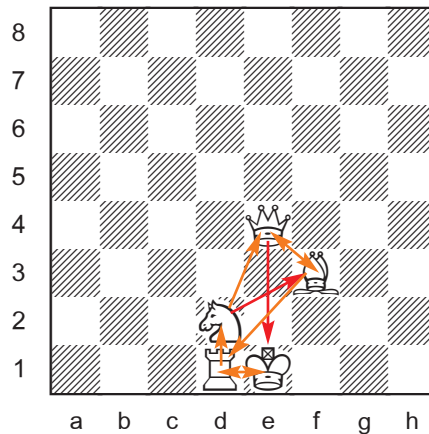
### Triple Loyd 34



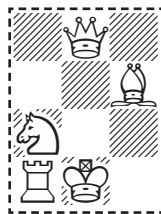
- A. Ke3#
- B. Kg3=
- C. Kc3 (Qh8#)

Long queen move to the corner, a favourite of Sam Loyd.

## Double Defensive Loop



This arrangement of pieces is unique.

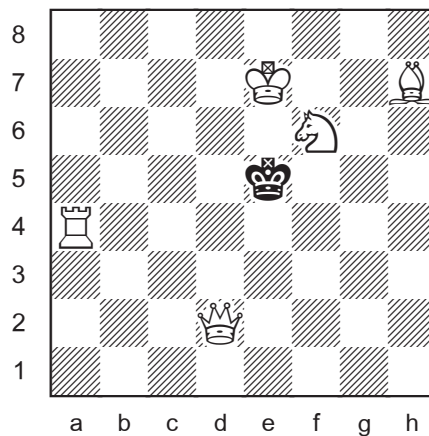


The 3 x 4 pattern (“blob”) can be placed anywhere on the board, and can be rotated and reflected, giving a total of 240 different solutions.

[The pieces do not form a continuous linear loop. The task is more correctly referred to as a “mesh”. See column 186.]

## Construction Task 5a

discovered checks not allowed

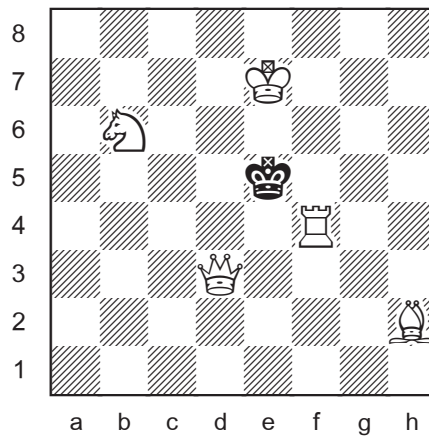


White has 16 mates in one.  
(12Q + 2R + 0B + 2N)

[This same problem was given in column 37, *Anniversary Six-Pack*.]

### Construction Task 5b

discovered checks allowed

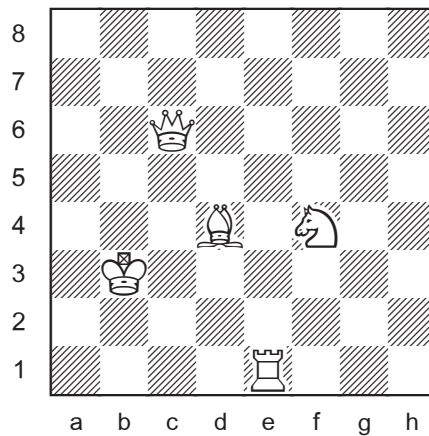


White has 24 mates in one.  
(9Q + 13R + 0B + 2N)

The solutions for problems 5a and 5b have not been confirmed by a computer. Can you set a new record?

### KQRBN Maximizer

a. most moves



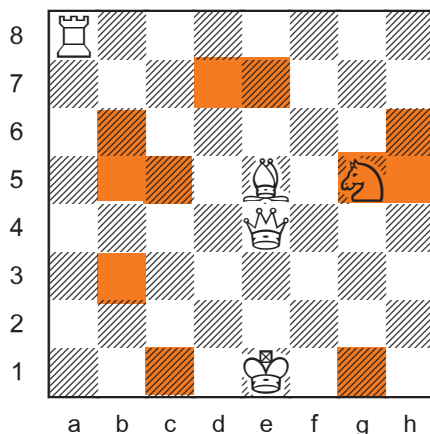
68 moves  
(K8 + Q25 + R14 + B13 + N8)

There are many different solutions.

The theoretical maximum is 70 moves (K8 + Q27 + R14 + B13 + N8). But neither the bishop nor the knight can have their maximum mobility if the queen is placed on a centre square to attain her maximum.

## KQRBN Maximizer

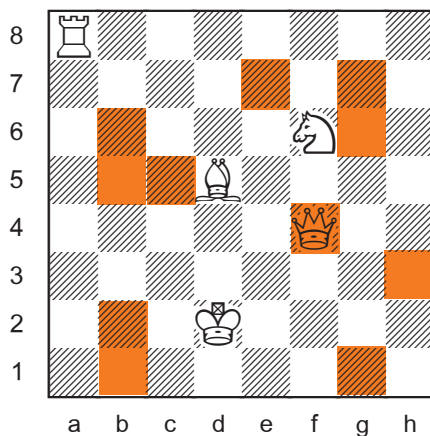
### b. most squares attacked



53 squares are attacked.

The 11 squares coloured in orange are not attacked.

There are nineteen patterns, rotatable and reflectible, for a total of 152 different solutions. In all cases, the rook is in a corner and one of the unattacked squares is occupied. The following pattern is the only one without the queen on a centre square.



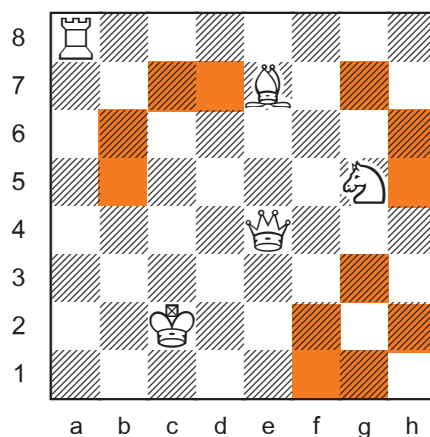
## Bonus Puzzle

If we stipulate that *all five pieces must be guarded*, then the maximum number of attacked squares is reduced by one. There are ten different patterns. Here is an example.



## KQRBN Maximizer (bonus)

**most squares attacked  
all pieces guarded**



52 squares are attacked.

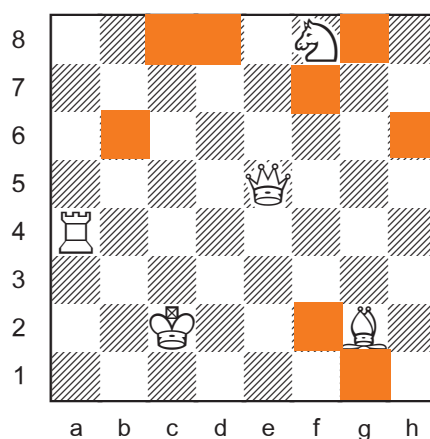
The 12 squares coloured in orange are not attacked.

## KQRBN Maximizer

**c. most squares attacked  
no piece guarded**

Adrian Storisteanu 2014

*Chesscafe.com*



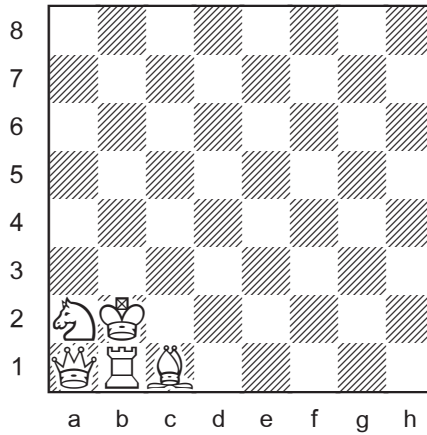
51 squares are attacked.

The 8 squares coloured in orange and  
the 5 occupied squares are not attacked.

The pattern is unique! With rotation and reflection, eight solutions.

# KQRBN Minimizer

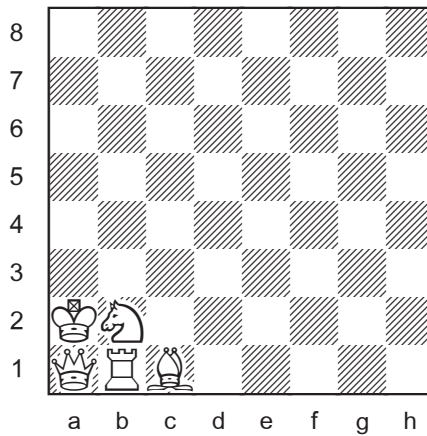
## a. fewest moves



11 moves

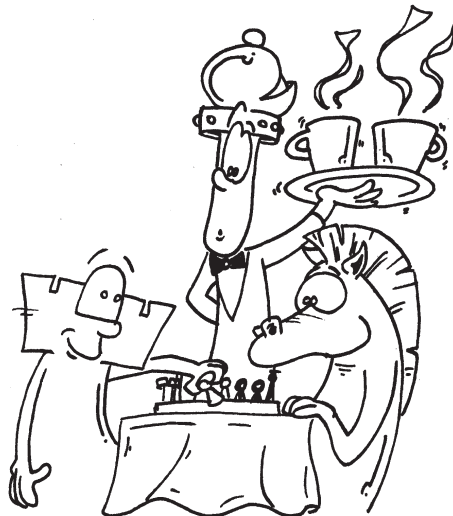
(K4 + Q0 + R0 + B5 + N2)

There is one other solution, with the king and knight trading places.



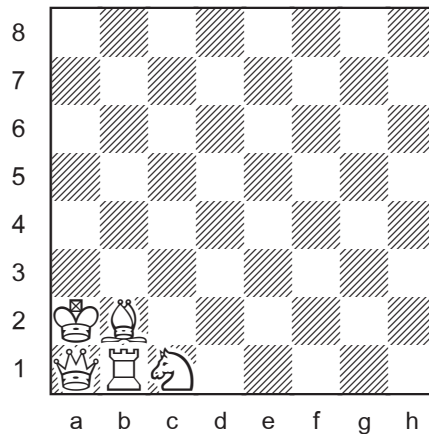
11 possible moves

(K2 + Q0 + R0 + B5 + N4)



## KQRBN Minimizer

### b. fewest squares attacked



15 squares are attacked.

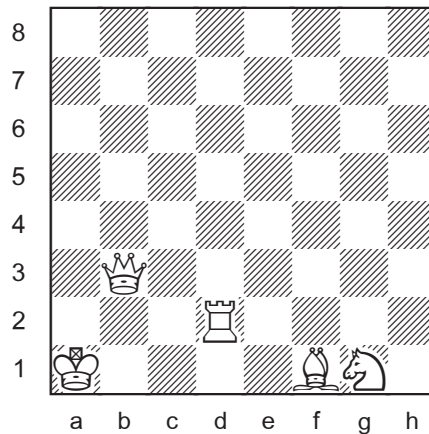
The 49 unattacked squares are not coloured in orange!?

There are four patterns: Kb2 Qa1 Rb1 Bc1 Na2 (first solution for *part a*)  
Ka2 Qa1 Rb1 Bb2 Nc1 (shown above)  
Ka2 Qa1 Rb2 Bb1 Nc2  
Kc2 Qa1 Rb2 Bb1 Na2

In the last two patterns, the rook is mobile. Note that the second position shown for *part a* is not a solution for *part b*. It has 16 attacked squares. The four patterns for *part b* have 11, 12, 13, and 15 moves.

## KQRBN Minimizer

### c. fewest squares attacked, no piece guarded



32 squares are attacked.

32 squares are not attacked.

There are 64 patterns for the solution. Cosmic balance.

Until next time!

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