



THE PUZZLING SIDE OF CHESS

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PROOF GAMES: MYSTERIOUS CAPTURES

number 14

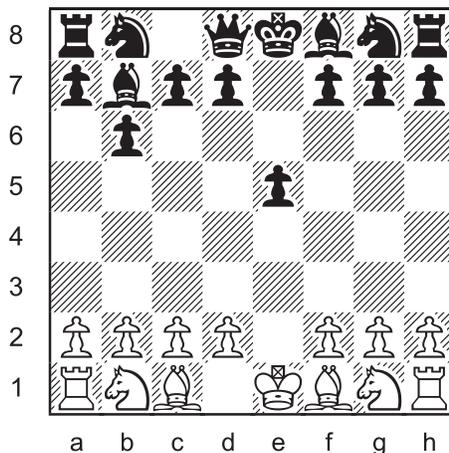
October 20, 2012

The task in a *proof game* is to show how a given position can be reached in a legal game.

The puzzles in this column have a *move stipulation*. The position must be reached in a precise number of moves, no more and no less. They are proof games in 4.0 which means four moves by each side.

Forget about opening theory. Don't worry if the moves look weird. The only thing that matters is legality.

Proof Game 08



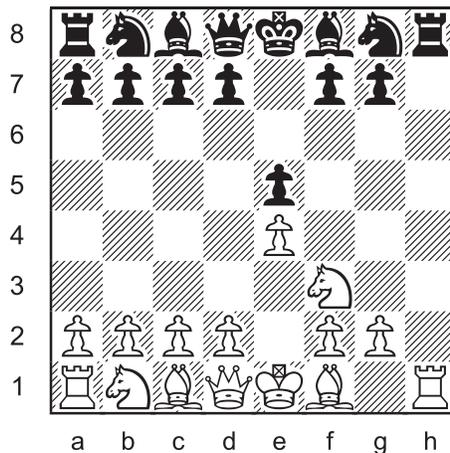
The diagrammed position, with White to play, was reached in a game after each player made exactly four moves. Can you figure out how?

For problems 1-7 and more information on proof games, see columns 3 and 8 in the archives.



Here's a strange diagram. Did the h-pawns fall off the board?

Proof Game 09



This position was reached after Black's fourth turn. What were the moves?

These puzzles are not as simple as they might appear at first glance. The following *facts about four move games* may explain why.

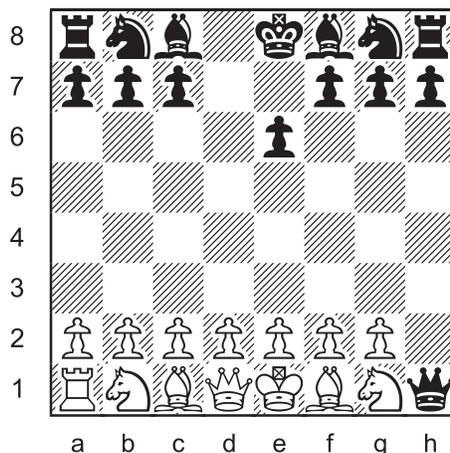
There are eighty-five billion possible games (move sequences) with four turns by each player. In case you are interested, the exact number is 84,998,978,956.

There are one billion possible positions following black's fourth turn. (958,605,819) Most of these positions can be reached by more than one sequence of moves.

There are twelve million positions which can only be reached by a unique sequence of four moves. (11,759,158)

These numbers were calculated by a computer program written in 2003 by François Labelle of Québec.

Proof Game 10



This position was reached after Black's fourth turn. What were the moves?

SYNTHETIC GAMES

A *synthetic game* is similar to a proof game. But instead of finding the move sequence that leads to a given position, the task is to compose a game that ends with a particular move.

A frequent goal in this kind of puzzle is to mate with a designated piece in the fewest moves. For example, the quickest mate by Black's queen knight (b8) is 1.e4 Nc6 2.Ne2 Ne5 3.g3 Nf3#.

Another common goal is to mate with a specific numbered move. Consider **4.Qxf7#**. One possible sequence leading to this mate is 1.e4 e5 2.Qh5 Nc6 3.Bc4 Nf6 4.Qxf7#. Unlike proof games, the move sequence in a synthetic game is usually not unique. There are thousands of possible games that end with the spectacular 4.Qxf7#!

Lots of other moves can also mate quickly against a cooperative opponent. A classic case is **3.Qxe5#**. Note that it must be a *capture*. Only two move sequences can lead to this mate. 1.e4 e5 2.Qh5 Ke7 3.Qxe5# and the same line beginning 1.e3.

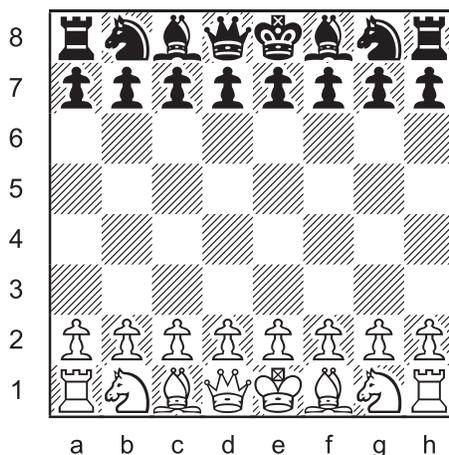
François Labelle used his program to find all the *mating moves* that can only be played after a unique move sequence. The computation took three months on a powerful computer to search a depth of 12 ply (Black's sixth move).

He found seven mates which uniquely determine the preceding moves. The shortest is **3...Qd4#**. The only possible game is 1.f3 e5 2.Kf2 Qh4+ 3.Ke3 Qd4#.

The next shortest mate is on Black's fourth turn, which fits nicely with our four move proof games.

Synthetic Game 01

François Labelle 2004



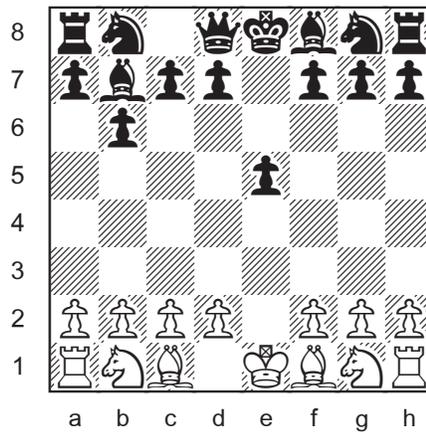
Compose a game that ends with the move **4...b5#**.

SOLUTIONS

All proof games by J. Coakley. Problem 8 is a *ChessCafe.com* original (2012). Problem 9 is from *Winning Chess Puzzles For Kids Volume 2* (2010), problem 10 from *Scholar's Mate 96* (2009).

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.

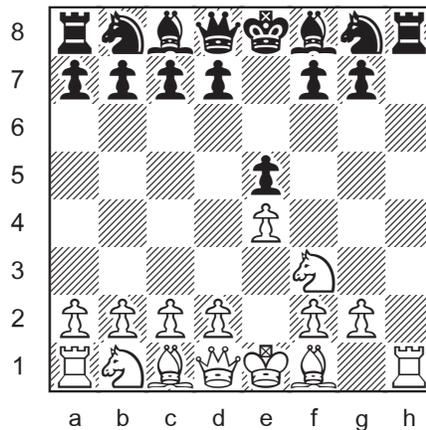
Proof Game 08



1.e4 b6 2.Qf3 Bb7 3.Qf6 exf6 4.e5 fxe5

By capturing twice, the black e-pawn returns to the e-file and conceals his past deeds. The black bishop on b7 is a *distractor*. Looking for lines where the bishop captures the white queen and e-pawn is a false trail, as you may have noticed.

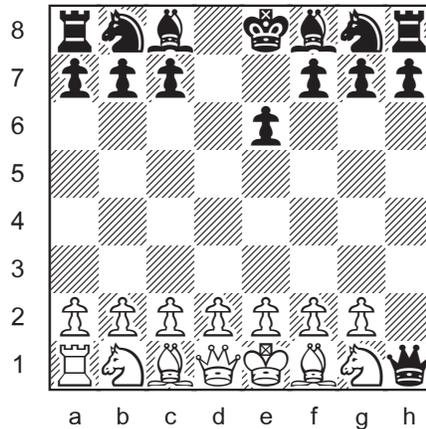
Proof Game 09



1.e4 h5 2.Qxh5 e5 3.Qd1 Rxh2 4.Nf3 Rh8

The main source of mystery in this puzzle is the *switchback* of two pieces, the white queen to d1 and the black rook to h8.

Proof Game 10

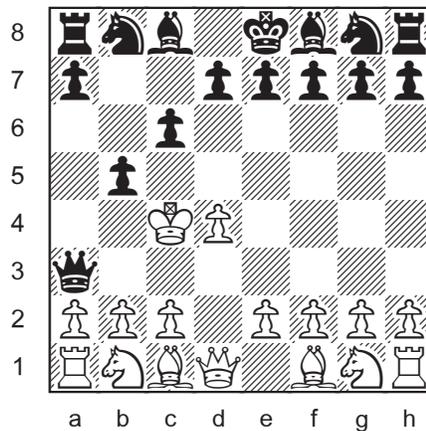


1.h4 e6 2.Rh3 Qxh4 3.Re3 Qh1 4.Rxe6+ dxe6

It's natural to assume that the missing white rook was captured on h1 by the black queen, and hard to imagine that it was captured on e6 by the black d-pawn.

Synthetic Game 01

François Labelle 2004



1.d4 c6 2.Kd2 Qa5+ 3.Kd3 Qa3+ 4.Kc4 **b5#**

Because the move sequence is unique, the diagrammed position could be used as a proof game. But it would be a very easy puzzle. The black queen on a3 is a no-brainer. However, as a synthetic game, finding ...Qa3 is a real challenge. Would you agree?

Until next time!

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