

Fox and the Foxholes

History and provenance

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Foxes, princesses, and invisible search

Gurmeet Manku's *Fox in a Hole* page dates from August 13, 2009 [1]. A mathematically equivalent story places a princess in palace rooms, with a searcher allowed to inspect one room per day while the princess moves to an adjacent room each night.

Britnell and Wildon's *Finding a Princess in a Palace* appeared as a preprint in 2012 and in the *Electronic Journal of Combinatorics* in 2013 [2]. It studies the problem on general graphs, not only a line. Its introduction points to a MathOverflow question about 17 rooms and 30 days as a motivation.

The line-of-holes puzzle is a special case. The paper establishes a broader research setting; it should not be cited as evidence that its authors invented every fox-and-holes retelling.

The move schedule matters: one inspection during the day and a mandatory adjacent move at night. Allowing the fox to stay put creates a different problem.

Sources

- [1] Gurmeet Manku, Fox in a Hole (August 13, 2009).
<https://gurmeet.net/puzzles/fox-in-a-hole/>
- [2] John R. Britnell and Mark Wildon, Finding a Princess in a Palace: A Pursuit-Evasion Problem, *Electronic Journal of Combinatorics* 20(1) (2013), P25; preprint 2012.
<https://arxiv.org/abs/1204.5490>

Sources checked September 7, 2026. A documented appearance is not necessarily the earliest appearance.