

THREE JOG KNIGHT

HAROLD JACOBS
North Hollywood, California

The rock band Three Dog Night started to become popular in the late 60s. At that time, I created a puzzle to lead into a lesson in one of my math classes which I called the Three Jog Knight. Its purpose was to introduce some ideas about vectors; the puzzle was to show all of the ways in which a knight could be moved from the lower to the upper square in this chessboard in exactly three moves. One of the ways is shown in the figure. [Figure for 3 jog knight]

The answer turns out to have a pleasant surprise.

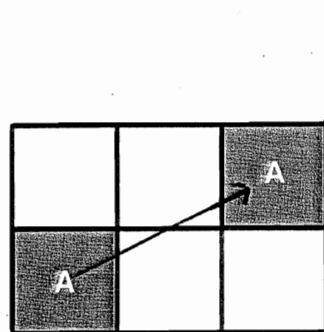
Several months ago while I was having trouble going to sleep, I thought about this puzzle and realized that it would be interesting to generalize it by asking the following questions. The result for a one jog knight is obvious and the result for a two jog knight is fairly easy to imagine without making a drawing. [Figures for 1 and 2 jog knights]

What about a four jog knight? Can you make a guess before drawing all of the possible paths? [Figure for 4 jog knight]

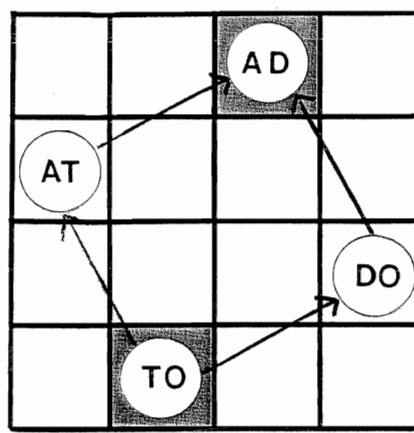
I see from the internet that Three Dog Night is still making music!

We have added a word component to Harold's Geometry as exemplified in the word A for 1 Jog Knight and the word TOAD for the 2 Jog Knight. On the Answers and Solutions page we give a word solution to the 3 Jog Knight using FLYING SAUCER.

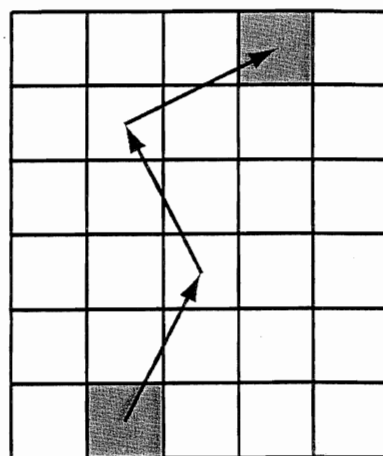
The 4 Jog Knight will require 32 letters. We leave this as a contest for the readers to enter. Perhaps to the 26 letters of the alphabet we could add another copy of the six vowels to complete the 16 4-letter words required. A copy of Making the Alphabet Dance will be awarded to the first successful solution.



1 Jog Knight



2 Jog Knight



3 Jog Knight