

PUZZLES AND THE MAN

64=65? Lewis Carroll

Puzzling Mathematician & Mathematical Puzzler

Stuart Moskowitz

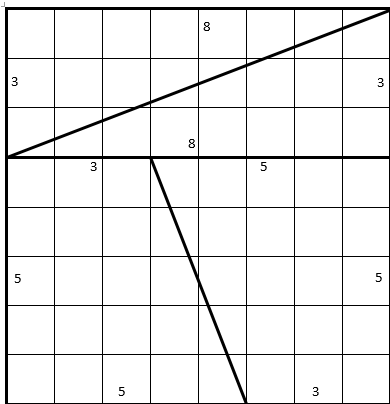
Humboldt State University

stuart@humboldt.edu

Cut out the square. Then cut it into the 2 triangles and 2 trapezoids, as marked.

Puzzle 1 Rearrange the 4 pieces into a rectangle that is not a square.

Puzzle 2 Explain how the rectangle's area can be more than the square's area. Justify where you find the missing unit.



Brandy and water

Take two tumblers, one of which contains 50 spoonfuls of pure brandy and the other 50 spoonfuls of pure water. Take from the first of these one spoonful of the brandy and transfer it into the second tumbler and stir it up. Then take a spoonful of the mixture and transfer it back to the first tumbler. If you consider the whole transaction, has more brandy been transferred from the first tumbler to the second, or more water from the second tumbler to the first?

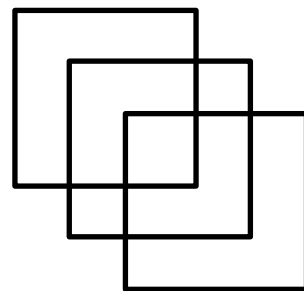
"I'll try if I know all the things I used to know. Let me see:

Four times five is twelve.
Four times six is thirteen.
Four times seven is....

—oh dear I shall never get to twenty at that rate!"

In what base(s), could the above statement be true? Extend the pattern so you can give an answer for 4×7 .

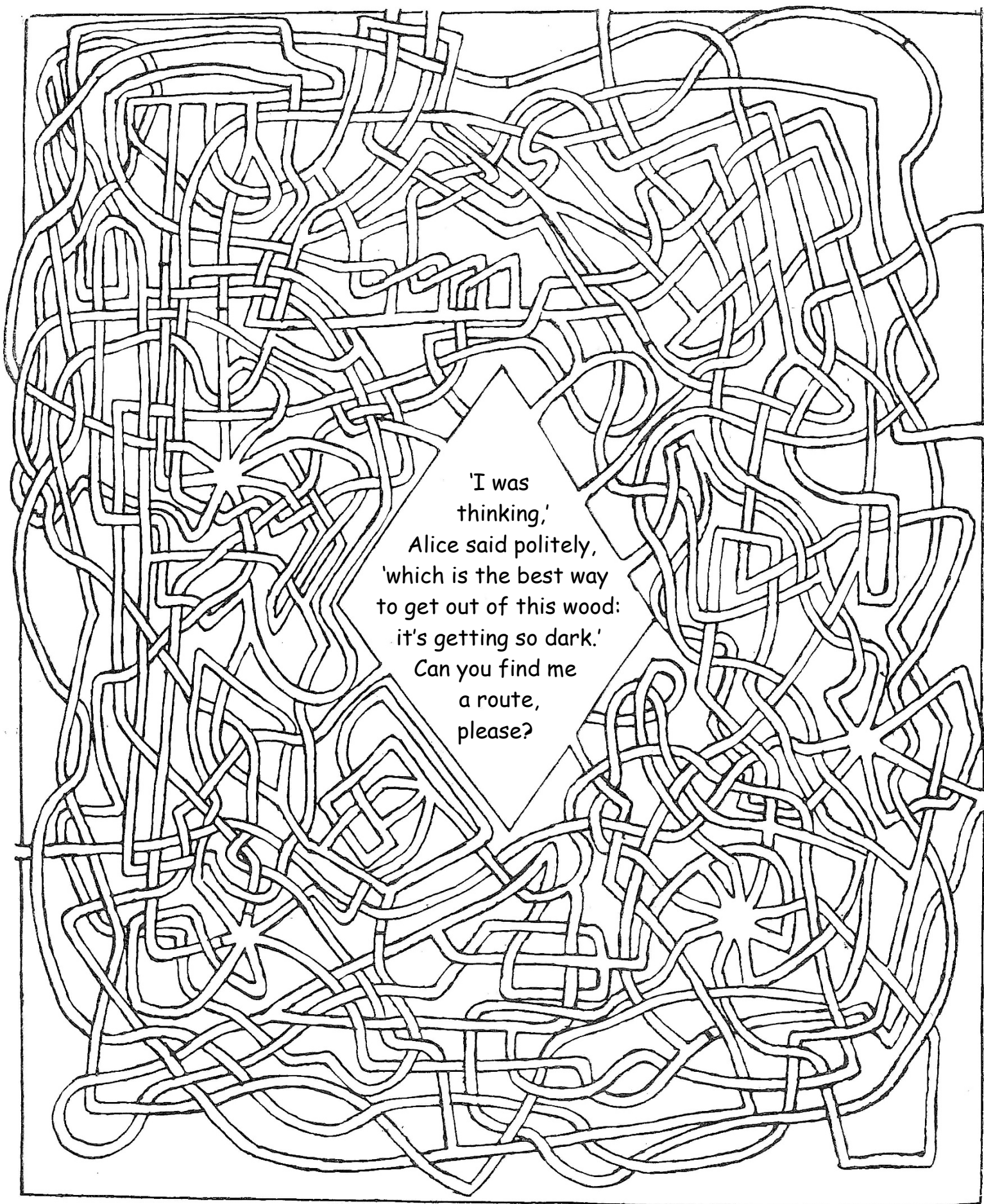
Draw three interlaced squares, as pictured here, in one continuous line without going over any parts of the line twice, without intersecting the line, and without taking the pencil off the paper.



A clock face has all the hours indicated by the same mark, and both hands the same in length. It is opposite to a looking -glass (mirror). Find the time between 6 and 7 when the time as read direct and in the looking -glass shall be the same.

Change just one letter per step (and each step must spell a word):

Can you turn CAT into DOG? HEAD into TAIL? WHEAT into BREAD?



'I was
thinking,'
Alice said politely,
'which is the best way
to get out of this wood:
it's getting so dark.'
Can you find me
a route,
please?

From MISCHMASCH, a Dodgson family magazine