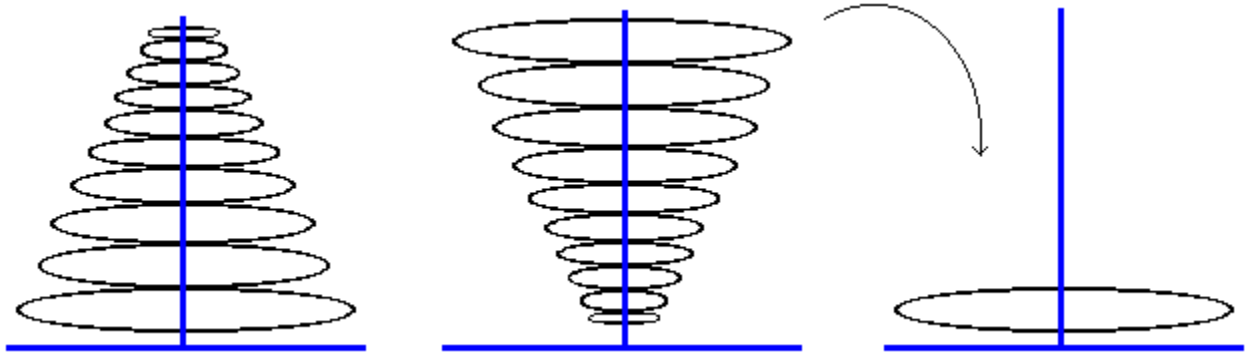


1. Batman has been imprisoned by the Riddler. To escape he must find the quickest way to move the tower of plutonium disks from one post to another so that the disks have the same arrangement as on the original post. He may move only one disk at a time. What is the minimum number of moves he must make in order to move the ten disk tower and have it appear the same?



2. The Riddler has left a clue for Batman to follow at the scene of each crime. These are the clues that Batman has found:

- (1) There is a 1 in the thousands place.
- (2) The digit in the tens place is 9 times the digit in the thousands place.
- (3) Multiply the digit in the thousands place by 2.
- (4) The digit in the ones place is a hand without a thumb.
- (5) The digit in the hundreds is 2 less than the number in the tens.

Solve the riddle to find the number and help Batman stop the Riddler.

3. How many different cubes can you make if each face of a given cube has a line connecting the center points of two opposite edges?

