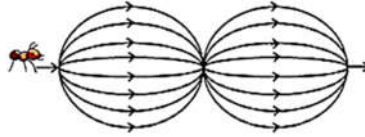


APMOPS2020 MARATHON TEST 04

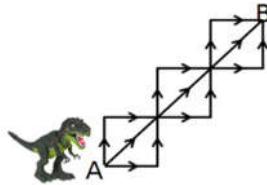
Time: 20 minutes

Name:

P1. An ant is moving from left to right, how many different paths can the ant take?



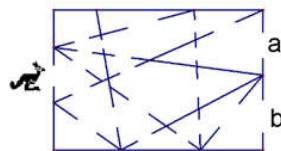
P2. In how many ways can a dinosaur move from point A to point B to escape from a huge fire in the forest?



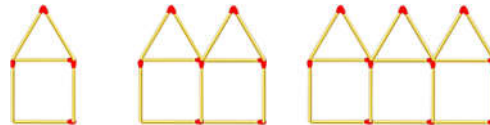
P3. How many ways can you spell LAVAL (read from top to bottom or left to right)?



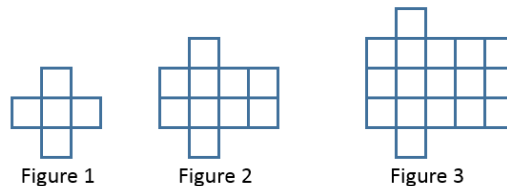
P4. A kangaroo enters a building. He only passes through triangular rooms. Where does he leave the building ?



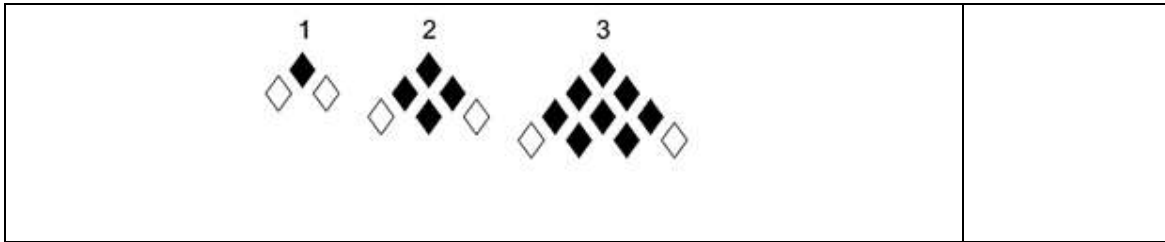
P5. How many matchsticks are there in the 10th set?



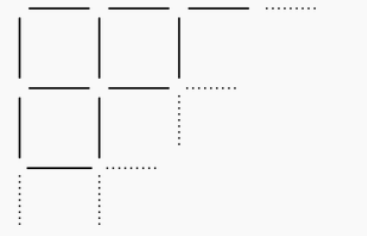
P6. How many squares are there in the 30th figure?



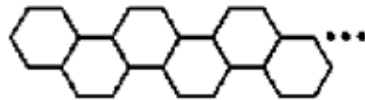
P7. The first three stages of a pattern are shown in the picture. How many black diamonds does the figure in stage 6 have ?



P8. The same-size sticks are used to form a grid of squares with 60-stick length and 32-stick width. How many sticks do we need?



P9. A shape consisting of a number of regular hexagons is made by continuing to the right the pattern shown in the diagram, with each extra hexagon sharing one side with the preceding one. Each hexagon has a side length of 1cm. How many hexagons are required for the perimeter of the whole shape to have length 2010 cm ?



P10. Observe the following pattern and find the value of x in figure H?

