

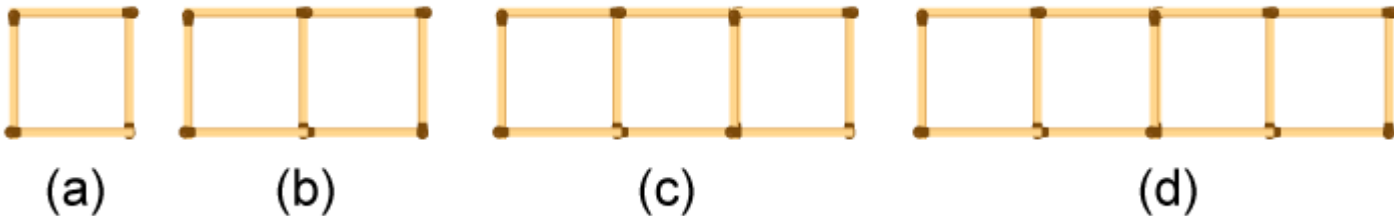
# VIDYA BHAWAN BALIKA VIDYA PITH

शक्तिउत्थानआश्रमलखीसरायबिहार

Class- 06 Sub-.Maths

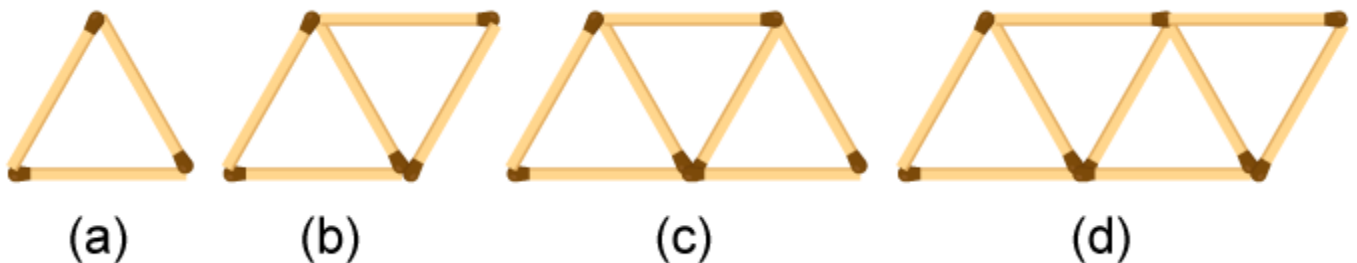
Date 01.07.2021

11. (a) Look at the following matchstick pattern of squares (Fig 11.6). The squares are not separate. Two neighbouring squares have a common matchstick. Observe the patterns and find the rule that gives the number of matchsticks



in terms of the number of squares. (Hint: If you remove vertical stick at the end, you will get a pattern of Cs)

(b) Fig 11.7 gives a matchstick pattern of triangles. As in Exercise 11 (a) above, find the general rule that gives the number of matchsticks in terms of the number of triangles.



**Solutions:**

(a) We may observe that in the given matchstick pattern, the number of matchsticks are 4, 7, 10 and 13, which is 1 more than the thrice of the number of squares in the pattern

Therefore the pattern is  $3x + 1$ , where  $x$  is the number of squares

(b) We may observe that in the given matchstick pattern, the number of matchsticks are 3, 5, 7 and 9 which is 1 more than the twice of the number of triangles in the pattern.

Therefore the pattern is  $2x + 1$ , where  $x$  is the number of triangles.

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Exercise 11.2 page no: 230

**1. The side of an equilateral triangle is shown by  $l$ . Express the perimeter of the equilateral triangle using  $l$ .**

**Solutions:**

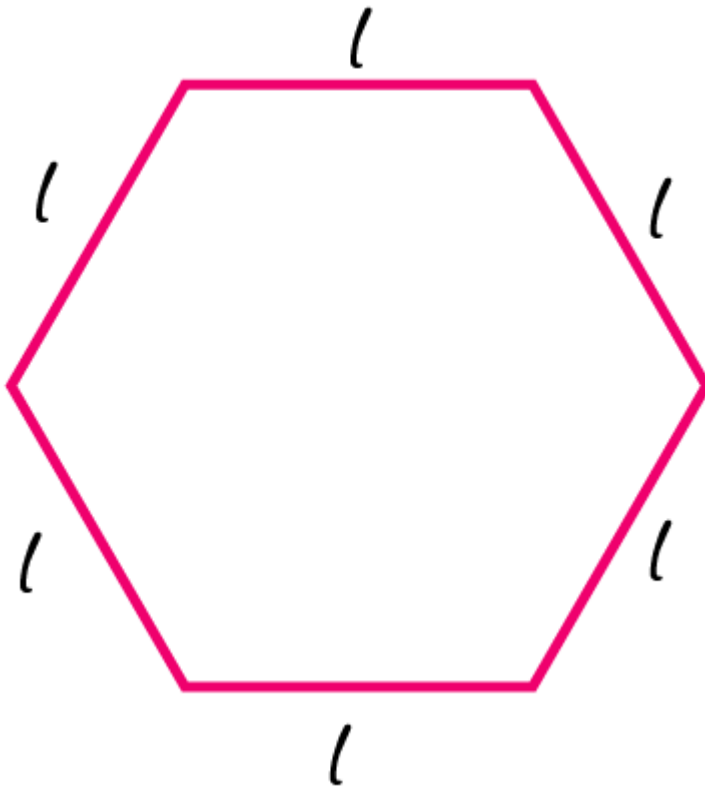
Side of equilateral triangle =  $l$

Perimeter =  $l + l + l$

=  $3l$

**2. The side of the regular hexagon (Fig 11.10) is denoted by  $l$ . Express the perimeter of the hexagon using  $l$ .**

(Hint: A regular hexagon has all its six sides equal in length.)

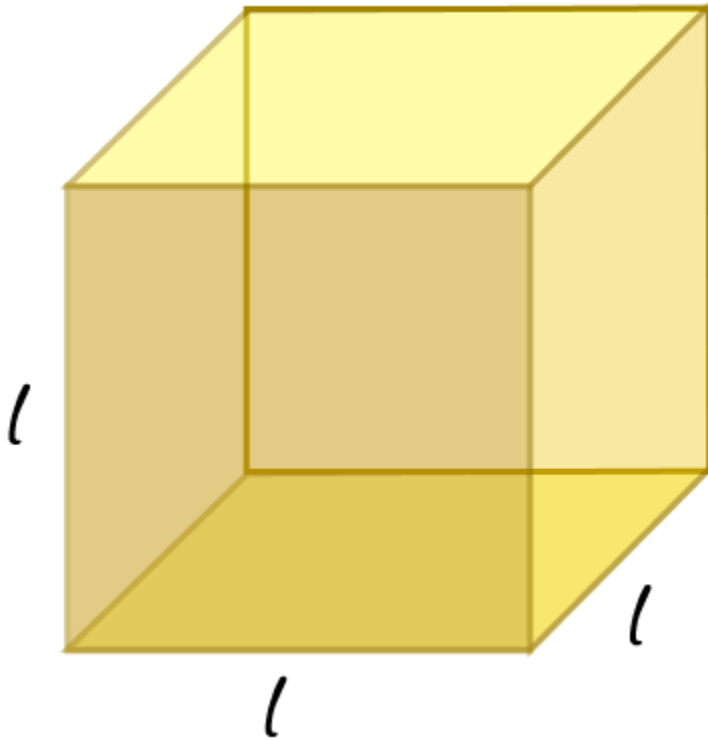


**Solutions:**

Side of a regular hexagon =  $l$

$$\begin{aligned} \text{Perimeter} &= l + l + l + l + l + l \\ &= 6l \end{aligned}$$

3. A cube is three dimensional figure as shown in Fig 11.11. It has six faces and all of them are identical squares. The length of an edge of the cube is given by  $l$ . Find the formula for the total length of the edges of a cube.



**Solutions:**

Length of an edge of the cube =  $l$

Number of edges = 12

Total length of the edges = Number of edges  $\times$  length of an edge  
 $= 12l$