

Mathematics

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(Chapter – 12) (Heron's Formula)(Exemplar Problems)

(Class – IX)

Exercise 12.1

Question 2:

The perimeter of an equilateral triangle is 60 m. The area is

- (A) $10\sqrt{3}\text{m}^2$ (B) $15\sqrt{3}\text{m}^2$ (C) $20\sqrt{3}\text{m}^2$ (D) $100\sqrt{3}\text{m}^2$

Answer 2:

(D) $100\sqrt{3}\text{m}^2$

Solution:

Let each side of an equilateral be x .

Then perimeter of an equilateral triangle = 60m

$$\therefore x + x + x = 60$$

$$\Rightarrow 3x = 60$$

$$\Rightarrow x = \frac{60}{3} = 20\text{ m}$$



Area of an equilateral triangle

$$= \frac{\sqrt{3}}{4} (\text{side})^2$$

$$= \frac{\sqrt{3}}{4} \times 20 \times 20$$

$$= 100\sqrt{3}\text{m}^2$$

Thus, the area of triangle is $100\sqrt{3}\text{m}^2$

