

Mathematics

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

(Class – IX)

Exercise 12.1

Question 5:

The length of each side of an equilateral triangle having an area of $9\sqrt{3}$ cm² is

(A) 8 cm (B) 36 cm (C) 4 cm (D) 6 cm

Answer 5:

(D) 6 cm

Solution:

Given, area of an equilateral triangle is $9\sqrt{3}$ cm²

∴ Area of an equilateral triangle is $\frac{\sqrt{3}}{4}(\text{Side})^2$

$$\Rightarrow \frac{\sqrt{3}}{4}(\text{Side})^2 = 9\sqrt{3}$$

$$\Rightarrow (\text{Side})^2 = 36$$

$$\therefore \text{Side} = 6 \text{ cm}$$



[taking positive square root because side is always positive]

Hence, the length of equilateral triangle is 6 cm.

