Exercise 12.1

Question 9:

The edges of a triangular board are 6 cm, 8 cm and 10 cm. The cost of painting it at the rate of 9 paise per cm^2 is

(A) Rs 2.00 (B) Rs 2.16 (C) Rs 2.48 (D) Rs 3.00

Answer 9:

(B) Rs 2.16

Solution:

Since, the edges of a triangular board a = 6cm, b = 8cm and c = 10cm.

Now, semi –perimeter of a triangular board

$$s = \frac{a+b+c}{2} = \frac{6+8+10}{2} = \frac{24}{2} = 12\ cm$$

Area of a triangular board = $\sqrt{s(s-a)(s-b)(s-c)}$ [by Heron's formula]

$= \sqrt{12(12-6)(12-8)(12-10)}$

$= \sqrt{12 \times 6 \times 4 \times 2}$

$= \sqrt{(12)^2 \times (2)^2}$

$= 12 \times 2 = 24\ cm^2$

Since the cost of painting for area 1 cm^2 = Rs.0.09

$\therefore Cost\ of\ paint\ for\ area\ 24\ \text{cm2} = 0.09 \times 24 = \text{Rs. } 2.16$

Hence, the cost of a triangular board is Rs.2.16.