

Chapter 10: Heron's Formula

F.M. - 15

Time: - 40 minutes

1. Choose the correct option: - $1 \times 4 = 4$

A. The semi-perimeter of a triangle having the length of its sides as 20 cm, 15 cm and 9 cm is
 (a) 44 cm (b) 21 cm (c) 22 cm (d) 24 cm

B. The area of an equilateral triangle with side $6\sqrt{3}$ cm is -
 (a) 27 cm^2 (b) $27\sqrt{3}\text{ cm}^2$ (c) $18\sqrt{3}\text{ cm}^2$ (d) $54\sqrt{3}\text{ cm}^2$

C. The perimeter of an isosceles right angled triangle having area 100 cm^2 , is -
 (a) $20\sqrt{2}\text{ cm}$ (b) $20(\sqrt{2}+1)\text{ cm}$ (c) 10 cm (d) $(10+\sqrt{2})\text{ cm}$

d. Assertion (A): The altitude of an equilateral triangle is given by -

$$\text{altitude} = \frac{\sqrt{3}}{2} \times \text{length of each side}$$

Reason (R): The area of an equilateral triangle is given by -

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

(a) A ✓ R ✓ E ✓ (b) A ✓ R ✓ E ✓ (c) A ✓ E ✓ (d) A ✓ E ✓

2. Fill in the blanks :- $1 \times 2 = 2$

(a) The area of a triangle is 48 cm^2 . Its base is 12 cm . Its height is _____.

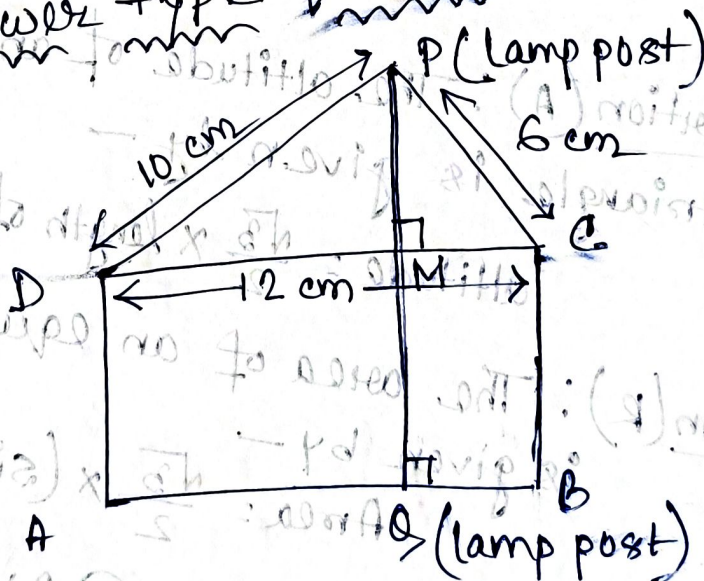
(b) If the semi-perimeter of an equilateral triangle is 12 cm , then its area _____.

3. Short answer type questions :- $2 \times 2 = 4$

(a) The length of the unequal side of an isosceles triangle is 12 cm and its perimeter is 32 cm . Find its area.

(b) Use Heron's formula, to find the area of a triangle whose sides are 13 cm , 14 cm , and 15 cm .

4. Long answer type question :- 5



In the above figure, P and Q are two lamp posts. If the area of $\triangle PDC$ is the same as that of rectangle ABCD, then find the distance between the two lamp posts.