

## Heron's Formular - Ex 12.4

NCERT Solutions by Dev Anoop (Bathinda)

2. let smallest side =  $x$  cm  
second side =  $(x+4)$  cm  
third side =  $(2x-6)$  cm

$$\text{Perimeter of } \Delta = 50 \text{ cm}$$

$$x + x + 4 + 2x - 6 = 50$$

$$\Rightarrow 4x = 50 + 2$$

$$\Rightarrow x = \frac{52}{4} = 13$$

$$\Rightarrow x = 13$$

$$\therefore \text{Sides are } x = 13 \text{ cm}$$

$$x + 4 = 17 \text{ cm}$$

$$2x - 6 = 20 \text{ cm}$$

$$\text{area of } \Delta = \sqrt{s(s-a)(s-b)(s-c)}$$

$$= \sqrt{25(25-13)(25-17)(25-20)}$$

$$= \sqrt{25 \times 12 \times 8 \times 5}$$

$$= \sqrt{5^2 \times 3 \times 2^4 \times 2 \times 2^4 \times 5}$$

$$= 2 \times 2 \times 5 \sqrt{30}$$

$$= 20\sqrt{30} \text{ cm}^2$$

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