

## Herons Formula Ex 12.4

NCERT Exemplar Solutions by Dev Anoop (Bathinda)

$$\begin{aligned}
 1. \text{ area of square } ABCD &= \frac{1}{2} d^2 \\
 &= \frac{1}{2} \times \overset{22}{44} \times 44 \\
 &= 968 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{ar}(\Delta I) = \text{ar}(\Delta II) = \text{ar}(\Delta III) = \text{ar}(\Delta IV) &= \frac{\overset{242}{968}}{\underline{4}} \\
 &= 242 \text{ cm}^2
 \end{aligned}$$

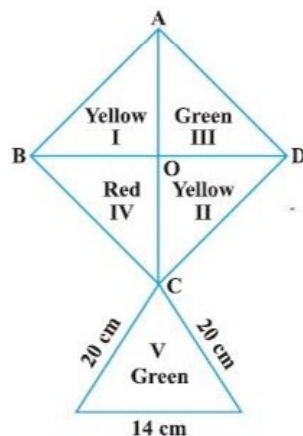
$$\text{ar}(\Delta V)$$

$$s = \frac{a+b+c}{2}$$

$$= \frac{14+20+20}{2}$$

$$= \frac{54}{2}$$

$$= 27 \text{ cm}$$



$$\begin{aligned}
 \text{area of } \Delta V &= \sqrt{s(s-a)(s-b)(s-c)} \\
 &= \sqrt{27(27-14)(27-20)(27-20)} \\
 &= \sqrt{27 \times 13 \times 7 \times 7} \\
 &= 7\sqrt{3^2 \times 3 \times 13} \\
 &= 21\sqrt{39} \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{area of yellow paper} &= 242 \times 2 \\
 &= 484 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{area of red paper} &= 242 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{area of green paper} &= (242 + 21\sqrt{39}) \text{ cm}^2
 \end{aligned}$$

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