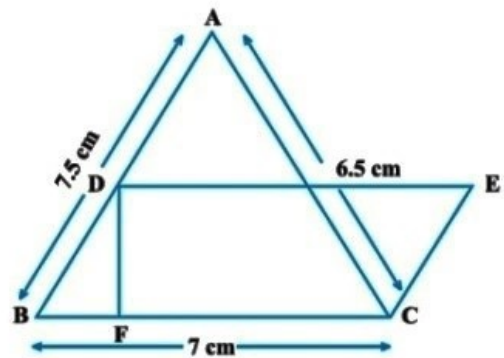


Heron's Formular - Ex 12.4
NCERT Solutions by Dev Anoop (Bathinda)

⑥ $\triangle ABC$

$$\begin{aligned} s &= \frac{a+b+c}{2} \\ &= \frac{7.5+7+6.5}{2} \\ &= \frac{21}{2} \text{ cm} \\ &= 10.5 \text{ cm} \end{aligned}$$



$$\begin{aligned} \text{area} &= \sqrt{s(s-a)(s-b)(s-c)} \\ &= \sqrt{10.5(10.5-7.5)(10.5-7)(10.5-6.5)} \\ &= \sqrt{10.5 \times 3 \times 3.5 \times 4} \\ &= \sqrt{3.5 \times 3 \times 3 \times 3.5 \times 2 \times 2} \\ &= 2 \times 3 \times 3.5 \\ &= 21 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{area of } \triangle BCED &= \text{ar}(\triangle ABC) \\ BC \times DF &= 21 \text{ cm}^2 \\ 7 \times DF &= 21 \\ \Rightarrow DF &= 3 \text{ cm} \end{aligned}$$