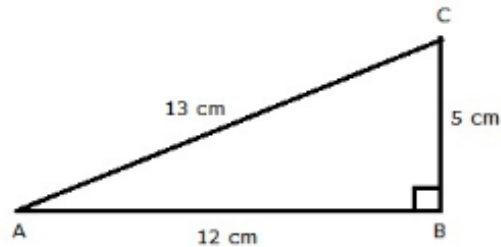




Question 17

Given: $\triangle ABC$ in which $\angle B = 90^\circ$, $AB = 12\text{cm}$, $BC = 5\text{cm}$



By Pythagoras theorem, we have

$$\begin{aligned} AC^2 &= (AB)^2 + (BC)^2 = [(12)^2 + (5)^2] \text{cm}^2 \\ &= (144 + 25) \text{cm}^2 = 169\text{cm}^2 \end{aligned}$$

$$\therefore AC = \sqrt{169}\text{cm} = 13\text{cm}$$

For T-ratio of $\angle A$, we have

Base = $AB = 12\text{cm}$

Perpendicular = $BC = 5\text{cm}$ and

Hypotenuse = $AC = 13\text{cm}$

$$\therefore \cos A = \frac{AB}{AC} = \frac{12}{13} \text{ and } \operatorname{cosec} A = \frac{AC}{BC} = \frac{13}{5}$$

For T-ratio of $\angle C$, we have

Base = $BC = 5\text{cm}$

Perpendicular = $AB = 12\text{cm}$ and

Hypotenuse = $AC = 13\text{cm}$

$$\therefore \cos C = \frac{BC}{AC} = \frac{5}{13} \text{ and } \operatorname{cosec} C = \frac{AC}{AB} = \frac{13}{12}$$

***** END *****