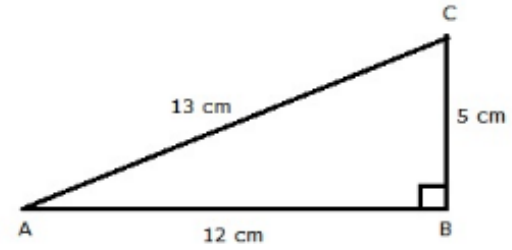
Question 17

Given: ΔABC in which ∠B = 900, AB = 12cm, BC = 5cm



By Pythagoras theorem, we have

$$AC^2 = (AB)^2 + (BC)^2 = \left[(12)^2 + (5)^2\right]cm^2$$

$$= (144 + 25)\,cm^2 = 169cm^2$$

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

For T-ratio of ∠A, we have
Base =AB = 12cm
Perpendicular = BC = 5 cm and
Hypotenuse = AC= 13cm

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

For T-ratio of ∠C, we have
Base =BC = 5 cm
Perpendicular = AB = 12 cm and
Hypotenuse = AC= 13cm

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

********** END **********