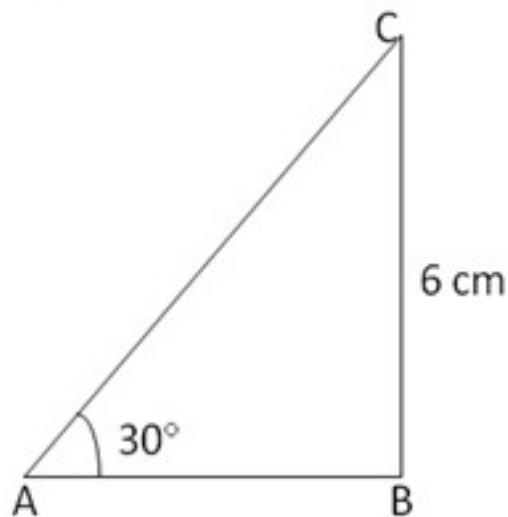




Question 21:

From right angled $\triangle ABC$,



$$\text{We have } \frac{BC}{AC} = \sin 30^\circ$$

$$\Rightarrow \frac{6}{AC} = \frac{1}{2}$$

$$\Rightarrow AC = 12\text{ cm}$$

By Pythagoras theorem,

$$(AB)^2 = (AC)^2 - (BC)^2$$

$$\Rightarrow AB = \sqrt{(AC)^2 - (BC)^2}$$

$$\Rightarrow AB = \sqrt{(12)^2 - (6)^2}$$

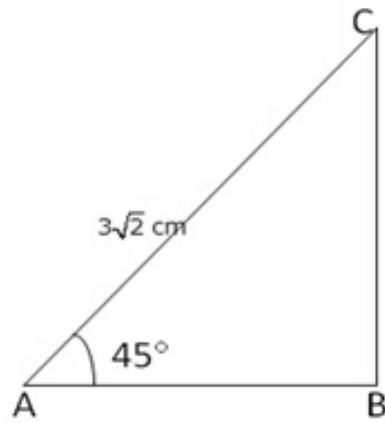
$$\Rightarrow AB = \sqrt{144 - 36}$$

$$\Rightarrow AB = \sqrt{108} = 6\sqrt{3}\text{ cm}$$

Hence, $AB = 6\sqrt{3}\text{ cm}$ and $AC = 12\text{ cm}$

Question 22:

From right angled $\triangle ABC$,



(i)

$$\frac{BC}{AC} = \sin 45^\circ$$

$$\Rightarrow \frac{BC}{3\sqrt{2}} = \frac{1}{\sqrt{2}}$$

$$\Rightarrow BC = 3$$

(ii) By Pythagoras theorem

$$(AB)^2 = \sqrt{(AC)^2 - (BC)^2} = \sqrt{(3\sqrt{2})^2 - (3)^2}$$

$$\Rightarrow \sqrt{18 - 9} = \sqrt{9} = 3 \text{ cm}$$

Hence, (i) $BC = 3\text{cm}$ and (ii) $AB = 3\text{cm}$

***** END *****