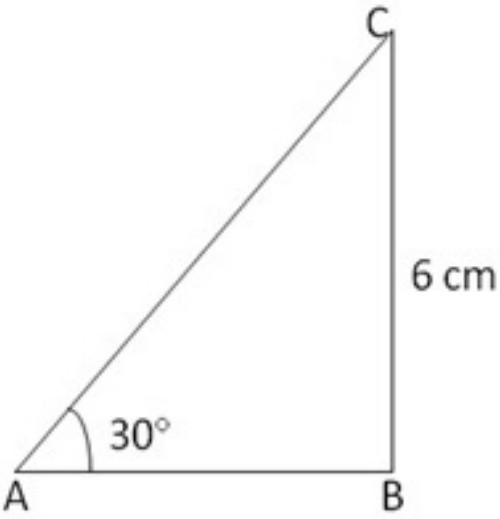
Question 21:

From right angled ΔABC,



We have $\frac{BC}{AC} = \sin 30°$

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

$\Rightarrow AC = 12\,cm$

By Pythagoras theorem,

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

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

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

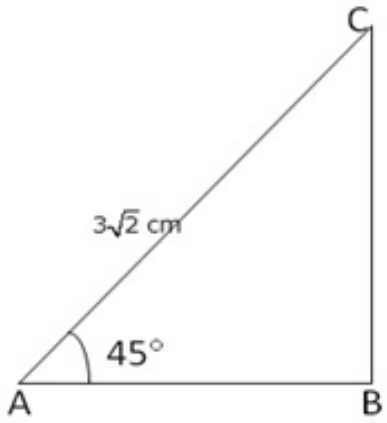
$\Rightarrow AB = \sqrt{144 - 36}$

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

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

Question 22:

From right angled ΔABC,



(i)

$$\frac{BC}{AC} = \sin 45°$$

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

$$\Rightarrow \quad BC = 3$$

(ii) By Pythagoras theorem

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

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

Hence, (i) BC = 3cm and (ii) AB = 3cm

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