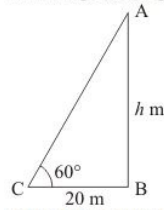## Some Applications of Trigonometry Ex 12.1 Q1

Answer :

Let AB be the tower of height h m and C be the point on the ground, makes an angle of elevation $60°$ with the top of tower AB.

In a triangle ABC, given that $BC = 20$ m and $\angle C = 60°$

Now we have to find height of tower AB, so we use trigonometrical ratios.

In the triangle ABC,

$$\Rightarrow \tan C = \frac{AB}{BC}$$

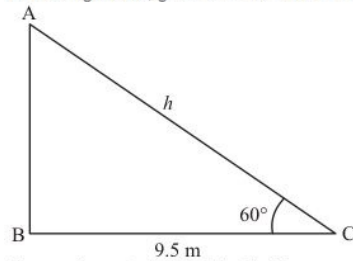$$\Rightarrow \sqrt{3} = \frac{h}{20}$$

$$\Rightarrow h = 20\sqrt{3}$$

Hence height of tower is $\boxed{20\sqrt{3}}$ meters.

Some Applications of Trigonometry Ex 12.1 Q2

Answer :

Let AC be the ladder of length h m and C be the points, makes an angle of elevation 60° with the wall and foot of the ladder is 9.5 meter away from wall.

In a triangle ABC, given that $BC = 9.5$ m and angle C = 60°

Now we have to find length of ladder.

So we use trigonometrically ratios.

In a triangle ABC,

$$\Rightarrow \quad \cos C = \frac{BC}{AC}$$

$$\Rightarrow \quad \cos 60° = \frac{9.5}{h}$$

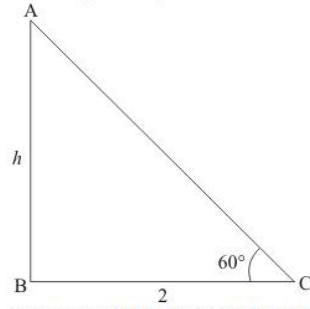$$\Rightarrow \quad \frac{1}{2} = \frac{9.5}{h}$$

$$\Rightarrow \quad h = 19$$

Hence length of ladder is $\boxed{19}$ meters.

Some Applications of Trigonometry Ex 12.1 Q3

Answer :

Let *AB* be the wall of height *h* m and *C* be the points, makes an angle 60° and foot of the ladder is 2m away from the wall. We have to find height of wall

In a triangle *ABC*, given that *BC* = 2m and angle *C* = 60°

Now we have to find the height of wall.

So we use trigonometrically ratios.

In a triangle *ABC*.

$$\Rightarrow \qquad \tan C = \frac{AB}{BC}$$

$$\Rightarrow \qquad \tan 60° = \frac{h}{2}$$

$$\Rightarrow \qquad \sqrt{3} = \frac{h}{2}$$

$$\Rightarrow \qquad h = 2\sqrt{3}$$

Hence height of wall is $\boxed{2\sqrt{3}}$ meters.

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