

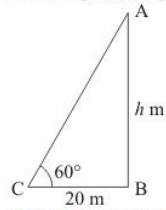


Some Applications of Trigonometry Ex 12.1 Q1

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 $\angle C = 60^\circ$



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

In the triangle ABC ,

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

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

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

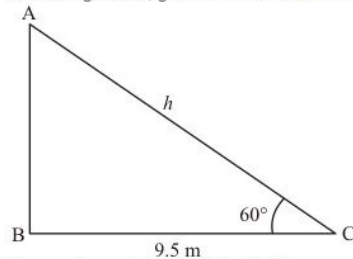
Hence height of tower is $20\sqrt{3}$ meters.

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 $C = 60^\circ$



Now we have to find length of ladder.

So we use trigonometrically ratios.

In a triangle ABC ,

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

$$\Rightarrow \cos 60^\circ = \frac{9.5}{h}$$

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

$$\Rightarrow h = 19$$

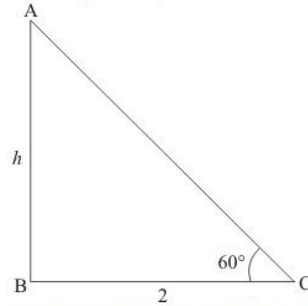
Hence length of ladder is 19 meters.

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 $BC = 2$ m and angle $C = 60^\circ$



Now we have to find the height of wall.

So we use trigonometrically ratios.

In a triangle ABC ,

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

$$\Rightarrow \tan 60^\circ = \frac{h}{2}$$

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

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

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

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