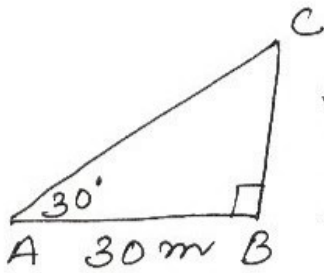


④



let BC represents the tower

In rt $\triangle ABC$

$$\tan 30^\circ = \frac{BC}{AB}$$

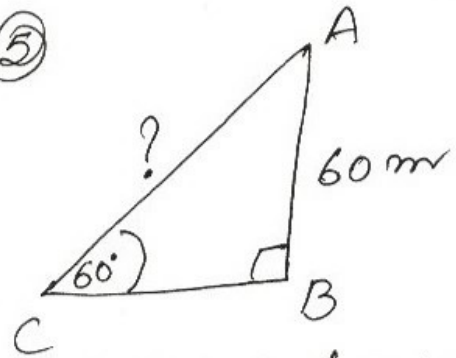
$$\& \frac{1}{\sqrt{3}} = \frac{BC}{30}$$

$$\Rightarrow BC = \frac{30}{\sqrt{3}}$$

$$= 10\sqrt{3}$$

$$\therefore \text{Height of tower} = 10\sqrt{3} \text{ m}$$

⑤



let A represent position of kite, AC the string

In rt $\triangle ABC$

$$\sin 60^\circ = \frac{AB}{AC}$$

$$\frac{\sqrt{3}}{2} = \frac{60}{AC}$$

$$\Rightarrow AC = \frac{120}{\sqrt{3}}$$

$$\Rightarrow AC = 40\sqrt{3}$$

length of string = $40\sqrt{3} \text{ m}$