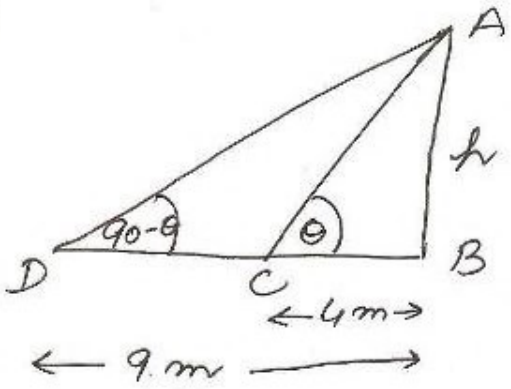
(16)




let AB represents tower,
C, D are points of observ.

In rt $\triangle CBA$

$$\tan\theta = \frac{AB}{BC}$$

$$\tan\theta = \frac{h}{4} \quad ---(1)$$

In rt $\triangle DBA$

$$\tan(90-\theta) = \frac{AB}{DB}$$

$$\Rightarrow \cot\theta = \frac{h}{9} \quad ---(11)$$

$(1) \times (11)$

$$\tan\theta \cot\theta = \frac{h}{4} \times \frac{h}{9}$$

$$\Rightarrow \tan\theta \times \frac{1}{\tan\theta} = \frac{h^2}{36}$$

$$\Rightarrow h^2 = 36$$

$$\Rightarrow h = 6$$

∴ Height of tower $= 6$ m