

# class VII, ex 15D, Page 6

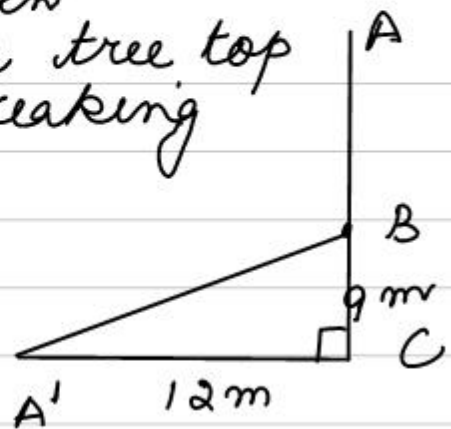
Solutions by Dev Anoop

(11)

let AC represent unbroken tree, A' is point where tree top touches ground after breaking

$$\begin{aligned} \text{In rt } \triangle A'CB \\ (A'B)^2 &= (A'C)^2 + BC^2 \\ &= 12^2 + 9^2 \\ &= 144 + 81 \\ &= 225 \end{aligned}$$

$$\begin{aligned} A'B &= \sqrt{225} \\ &= \sqrt{3^2 \times 5^2} \\ &= 3 \times 5 \\ &= 15 \end{aligned}$$



$$\begin{aligned} \text{total height of tree} &= AC \\ &= AB + BC \\ &= A'B + BC \\ &= 15 + 9 \\ &= 24 \text{ m} \end{aligned}$$

(12)

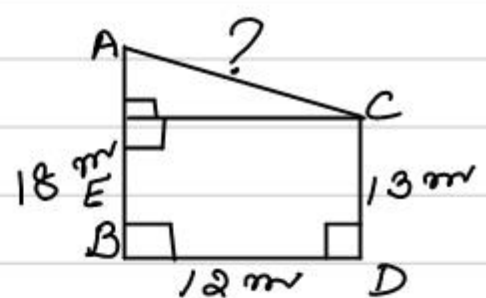
let AB and CD represent poles

Const - draw  $CE \perp AB$

Sol - In rt  $\triangle AEC$

$$\begin{aligned} AC^2 &= AE^2 + CE^2 \quad (\text{Pythagoras theorem}) \\ &= 5^2 + 12^2 \\ &= 25 + 144 \\ &= 169 \end{aligned}$$

$$\begin{aligned} AC &= \sqrt{169} \\ &= \sqrt{13 \times 13} \\ &= 13 \text{ m} \end{aligned}$$



$$\left[ \begin{array}{l} BDCE \text{ is a rect} \\ \therefore BE = CD = 13 \text{ m} \\ AE = AB - BE \\ = 18 - 13 \\ = 5 \text{ m} \end{array} \right]$$