13/11/2020
SATURDAY

MATHEMATICS

STD - X
class - 59

Assignment

1) In a right triangle ABC, $\angle C = 65°$, $AB = 5$ cm.
Find the length of side BC.

Ans)

$AB = 5$ cm

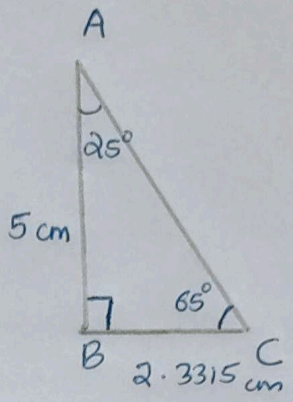
$\angle B = 90°$

$\angle C = 65°$

$\therefore \angle A = 180 - (90+65)$

$= 180 - 155$

$\angle A = \underline{25°}$



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

$\tan 25° = \frac{BC}{5}$

$0.4663 = \frac{BC}{5}$

$\therefore BC = 0.4663 \times 5$

$\therefore BC = \underline{2.3315 \text{ cm}}$

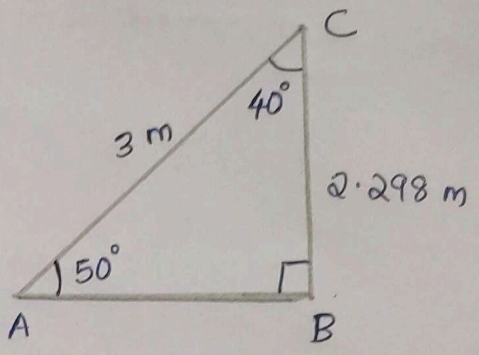
2. From the top of a vertical post, a rope is stretched and tied to the ground 3 m away from the bottom of the post. The rope makes an angle of 50° with the ground. Find the height of the post.

Ans)

$AC = 3\ m$

AB = ground

BC = post



$$\sin A = \frac{BC}{AC}$$

$$\sin 50^\circ = \frac{BC}{3}$$

$$0.7660 = \frac{BC}{3}$$

$$\therefore BC = 3 \times 0.7660$$

$$= 2.298\ m$$

$\therefore$ Height of the post

$= 2.298\ m$