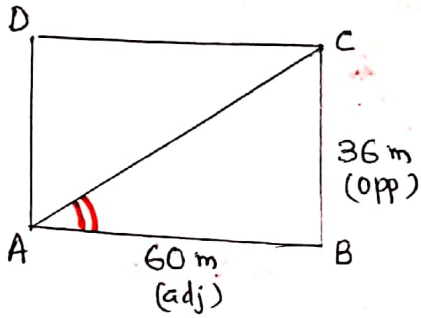


Problems : Exercise 16.1

1.



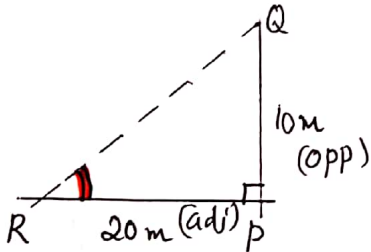
$$\tan \hat{A} = \frac{\text{opp}}{\text{adj}} = \frac{36}{60}$$

$$\hat{A} = \tan^{-1}\left(\frac{36}{60}\right)$$

$$\hat{A} = 30.963$$

$$\hat{A} = \underline{\underline{31.0^\circ}}$$

2.

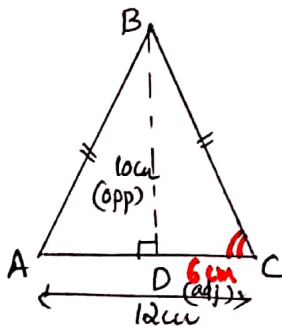


$$\tan \hat{R} = \frac{\text{opp}}{\text{adj}} = \frac{10}{20}$$

$$\hat{R} = \tan^{-1}\left(\frac{10}{20}\right)$$

$$= \underline{\underline{26.6^\circ}}$$

3.



$$\tan \hat{C} = \frac{\text{opp}}{\text{adj}} = \frac{10}{6}$$

$$\hat{C} = \tan^{-1}\left(\frac{10}{6}\right)$$

$$= \underline{\underline{59.0^\circ}}$$

$$\hat{C} = 59.0^\circ$$

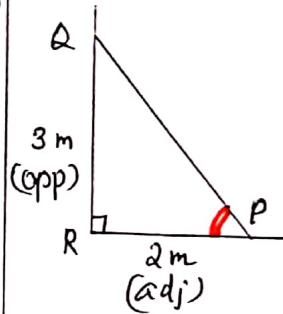
$$\hat{A} = 59.0^\circ$$

$$\hat{B} = 180^\circ - (59^\circ + 59^\circ)$$

$$= 180^\circ - 118^\circ$$

$$= \underline{\underline{62^\circ}}$$

4.



$$\tan \hat{P} = \frac{3}{2}$$

$$\hat{P} = \tan^{-1}\left(\frac{3}{2}\right)$$

$$\hat{P} = \underline{\underline{56.3^\circ}}$$

5.

$$\tan \hat{B} = \frac{\text{opp}}{\text{adj}}$$

$$\tan 32.4^\circ = \frac{x}{16}$$

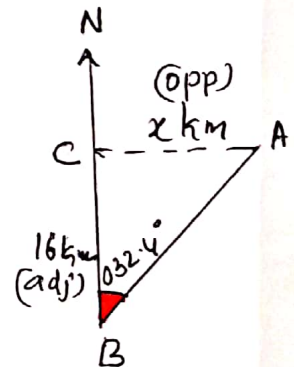
$$\frac{x}{16} = \tan 32.4^\circ$$

$$\frac{x}{16} = 0.6346192$$

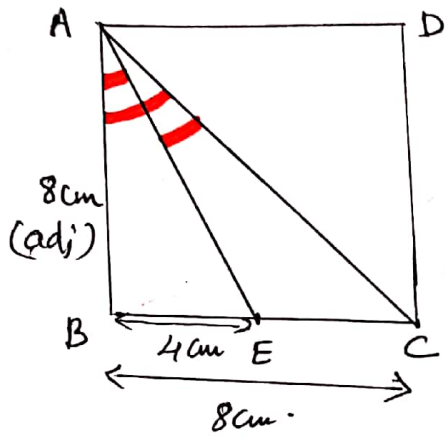
$$x = 10.15390$$

$$x = 10.2$$

$$AC = \underline{\underline{10.2 \text{ km}}}$$



⑥



$$\hat{EAB} = \tan^{-1}\left(\frac{4}{8}\right)$$

$$= 26.565$$

$$= \underline{\underline{26.6^\circ}}$$

$$\hat{CAB} = \tan^{-1}\left(\frac{8}{8}\right)$$

$$= 45.0^\circ$$

$$\hat{CAE} = \hat{CAB} - \hat{EAB}$$

$$= 45^\circ - 26.6^\circ$$

$$\hat{CAE} = \underline{\underline{18.4^\circ}}$$

⑦

