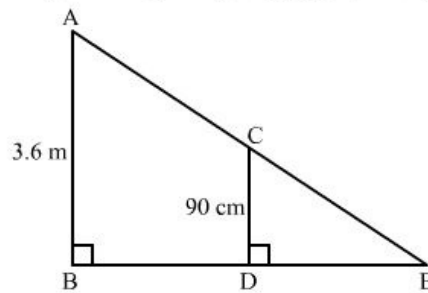




Triangles Ex 4.5 Q21

Answer :

It is given that, girl height = 90cm , speed = 1.2m / sec and height of lamp = 3.6m .



We have to find the length of her shadow after 4sec

Let AB be the lamp post and CD be the girl.

Suppose DE is the length of her shadow.

Let $DE = x$

And

$$BD = 1.2 \times 4$$

$$= 4.8\text{m}$$

Now in $\triangle ABE$ and $\triangle CDE$ we have

$$\angle B = \angle D \text{ and } \angle E = \angle E$$

So by AA similarly criterion $\triangle ABE \sim \triangle CDE$

$$\frac{BE}{DE} = \frac{AB}{CD}$$

$$\frac{4.8+x}{x} = \frac{3.6}{0.9} = 4$$

$$\Rightarrow 3x = 4.8$$

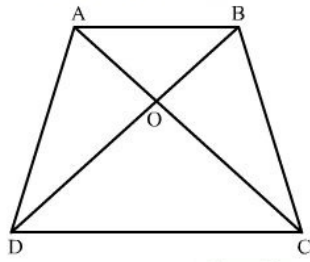
$$\Rightarrow x = 1.6$$

Hence the length of her shadow after 4sec is 1.6 m.

Triangles Ex 4.5 Q22

Answer :

It is given that trapezium $ABCD$ with $AB \parallel DC$. O is the point of intersection of AC and BD .



We have to prove that $\frac{OA}{OC} = \frac{OB}{OD}$

Now, in $\triangle AOB$ and $\triangle COD$

(Vertically opposite angles)

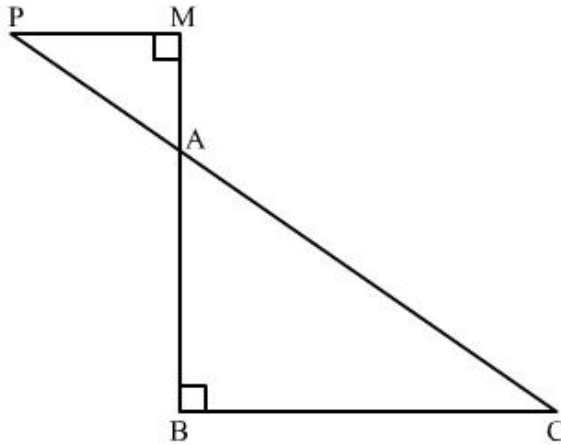
(Alternate angles)

$\therefore \triangle AOB \sim \triangle COD$ (AA Similarity)

Hence, $\frac{OA}{OC} = \frac{OB}{OD}$ (Corresponding sides are proportional)

Triangles Ex 4.5 Q23

Answer :



(1) It is given that $\triangle ABC$ and $\triangle AMP$ are two right angle triangles.

Now, in $\triangle ABC$ and $\triangle AMP$, we have

$\angle MAP = \angle BAC$ (Given)

$\angle AMP = \angle B = 90^\circ$

$\triangle ABC \sim \triangle AMP$ (AA Similarity)

(2) $\triangle ABC \sim \triangle AMP$

So, $\frac{CA}{PA} = \frac{BC}{MP}$ (Corresponding sides are proportional)

***** END *****