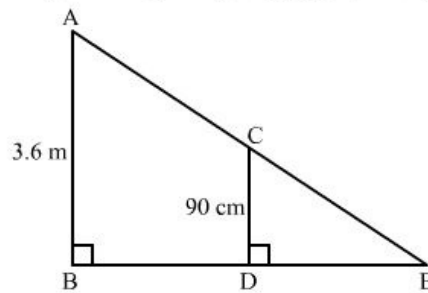




Triangles Ex 4.5 Q21

**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  $\triangle ABE \sim \triangle CDE$

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

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

$$\Rightarrow 3x = 4.8$$

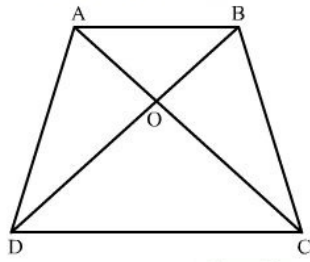
$$\Rightarrow x = 1.6$$

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)

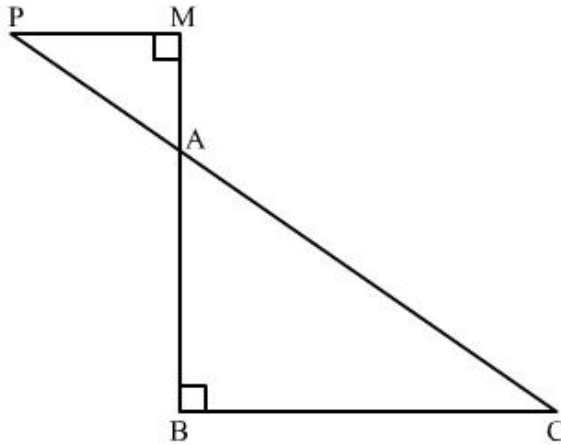
(Alternate angles)

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

Hence,  $\boxed{\frac{OA}{OC} = \frac{OB}{OD}}$  (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,  $\boxed{\frac{CA}{PA} = \frac{BC}{MP}}$  (Corresponding sides are proportional)

\*\*\*\*\* END \*\*\*\*\*