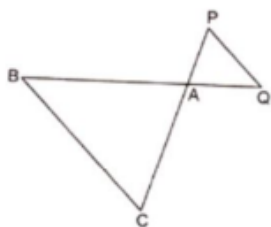


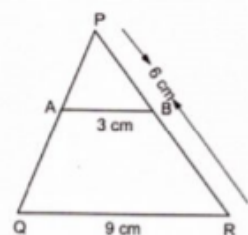
Mathematics

Triangles

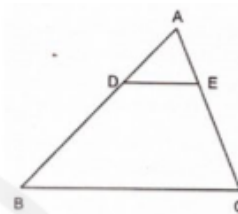
- Q1** In $\triangle ACB - \triangle APQ$. If $BC = 8$ cm, $PQ = 4$ cm, $BA = 6.5$ cm and $AP = 2.8$ cm, find CA and AQ



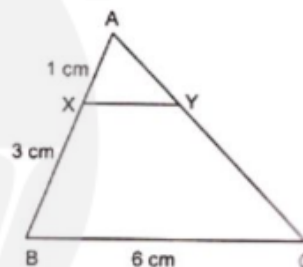
- Q2** A vertical stick 10 cm long casts a shadow 8 cm long. At the same time a tower casts a shadow 30 m long. Determine the height of the tower.
- Q3** In $AB \parallel QR$, find the length of PB .



- Q4** In $DE \parallel BC$ such that $AE = (1/4)AC$. If $AB = 6$ cm, find AD .



- Q5** In, $XY \parallel BC$. Find the length of XY .



Answer Key

Q1 $AQ=3.25$ cm and $AC=5.6$ cm

Q2 **3750cm**

Q3 **2cm**

Q4 **1.5cm**

Q5 **1.5cm**



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Hints & Solutions

Q1 Text Solution:

Given $\triangle ACB \sim \triangle APQ$

Then, $AC/AP = BC/PQ = AB/AQ$

Or $AC/2.8 = 8/4 = 6.5/AQ$

Or $AC/2.8 = 8/4$ and $8/4 = 6.5/AQ$

Or $AC = 8/4 \times 2.8$ and $AQ = 6.5 \times 4/8$

Or $AC = 5.6$ cm and $AQ = 3.25$ cm

Video Solution:



Q2 Text Solution:

Length of stick = 10 cm Length of shadow stick = 8 cm

In $\triangle ABC$ and $\triangle PQR$

$\angle ABC = \angle PQR = 90^\circ$

And $\angle ACB = \angle PRQ$ (Angular elevation of sun)

Then $\triangle ABC \sim \triangle PQR$ (By AA similarity)

So, $\frac{AB}{PQ} = \frac{BC}{QR}$

$10/PQ = 8/3000$

$PQ = \frac{10}{8} \times 3000$

3750 cm Or 37.5 m

Video Solution:



Q3 Text Solution:

We have $\triangle PAB$ and $\triangle PQR$ $\angle P = \angle P$ (Common) $\angle PAB = \angle PQR$ (Corresponding angles) Then, $\triangle PAB \sim \triangle PQR$ (By AA similarity) So, $\frac{PB}{PR} = \frac{AB}{QR}$ (Corresponding parts of similar triangle area proportion) Or, $\frac{PB}{6} = \frac{3}{9}$ Or $PB = \frac{3}{9} \times 6$ Or $PB = 2$ cm

Video Solution:



Q4 Text Solution:

We have, $DE \parallel BC$, $AB = 6$ cm and $AE = 1/4 AC$ In $\triangle ADE$ and $\triangle ABC$

$\angle A = \angle A$ (Common)

$\angle ADE = \angle ABC$ (Corresponding angles)

Then, $\triangle ADE \sim \triangle ABC$ (By AA similarity) So,

$\frac{AD}{AB} = \frac{AE}{AC}$ (Corresponding parts of similar triangle area proportion) Or

$\frac{AD}{6} = \frac{\frac{1}{4}AC}{AC}$ ($AE = 1/4 AC$ Given) Or,

$\frac{AD}{6} = \frac{1}{4}$ Or, $AD = 6/4$ Or, $AD = 1.5$ cm

Video Solution:



Q5 Text Solution:



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We have, $XY \parallel BC$ In $\triangle AXY$ and $\triangle ABC$
 $\angle A = \angle A$ (Common) $\angle AXY = \angle ABC$
(Corresponding angles) Then,
 $\triangle AXY \sim \triangle ABC$ (By AA Similarity) So,
 $\frac{AX}{BY} = \frac{XY}{BC}$ (Corresponding parts of similar
triangle area proportion) Or $\frac{1}{4} = \frac{XY}{6}$ Or
 $XY = 6/4$ Or $XY = 1.5$ cm

Video Solution:



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