

WORKSHEET ON MODULE 2/5 OF TRIANGLES

Solved Example:

Consider the following figure: It is given that $CD/DA=CE/EB$, and $\angle CDE = \angle CBA$.
Prove that $\triangle CAB$ is isosceles

Solution:

We are given that $CD/DA=CE/EB$

So by the **converse of the BPT**, we can note,

$DE \parallel AB$

Thus,

$\angle CDE = \angle CAB$ (corresponding angles)

But it is also given that,

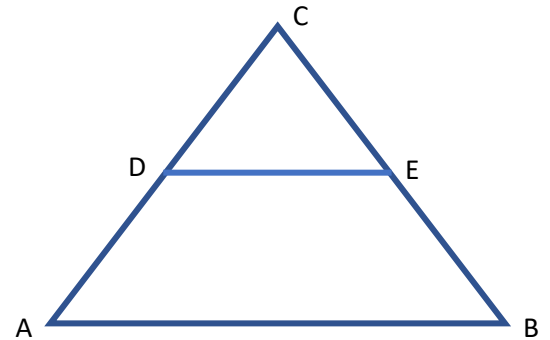
$\angle CDE = \angle CBA$

Which means that,

$\angle CAB = \angle CBA$

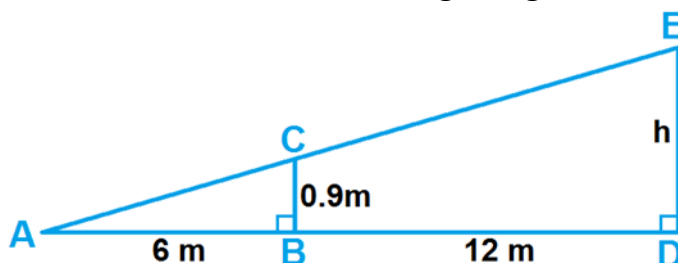
$\Rightarrow CA = CB$ (Sides opposite to equal angles of a triangle are equal)

Hence $\triangle CAB$ is **isosceles**.

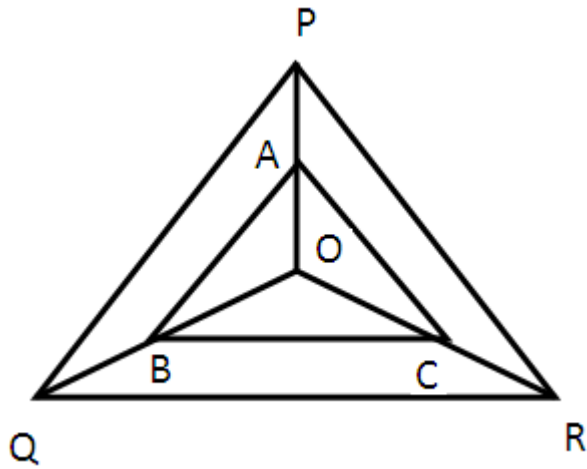


Solve the following:

- 1) Rhombus PQRB is inscribed in triangle ABC such that $\angle B$ is one of its angles. P, Q and R lie on AB, AC and BC respectively. If $AB = 12$ cm and $BC = 6$ cm, find the sides PQ, RB of the rhombus.
- 2) ABCD is a trapezium in which $AB \parallel DC$ and its diagonals intersect each other at the point O. Show that $AO/BO = CO/DO$.
- 3) Find the value of h in the diagram given below.

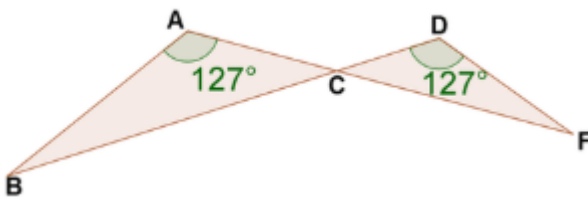


- 4) In the figure given below, A, B and C are points on OP, OQ and OR respectively such that $AB \parallel PQ$ and $AC \parallel PR$. Show that $BC \parallel QR$.

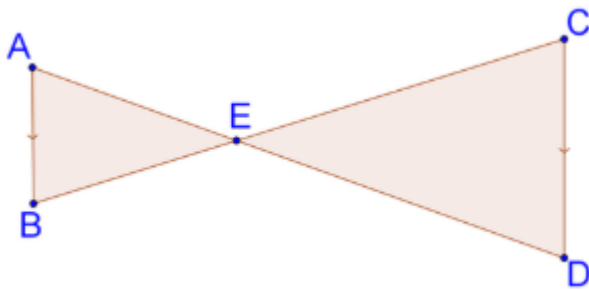


- 5) For each pair of triangles below, state if they are congruent, similar or not enough information. If they are similar or congruent, write a similarity or congruence statement. Explain your answer.

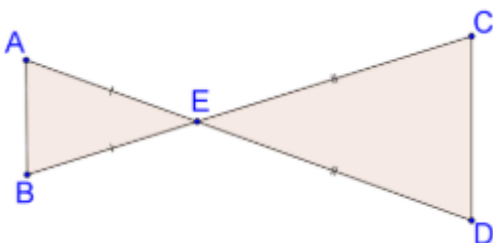
a.



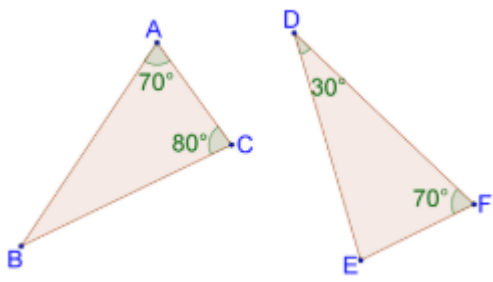
b.



c.



d.



e.

