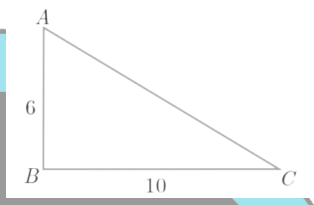
ONE TWO ACADEMY

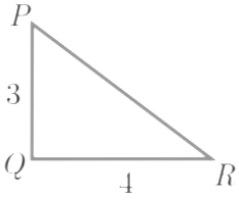
STD 10 MATHEMATICS Geometry Part - I (Ex 4.1 and 4.2)

Total:- 25 marks **Time:- 45 minutes**

Answer the following questions: **4 x 1 = 4**

1. State ABT theorem.
2. Check whether AD is a bisector of $\angle A$ of $\triangle ABC$ when AB = 5 cm , AC = 10 cm , BD = 1.5 cm and CD = 3.5 cm
3. Two triangles are similar, if their corresponding angles are _____ and their corresponding sides are _____.
4. Is $\triangle ABC \sim \triangle PQR$? Justify.

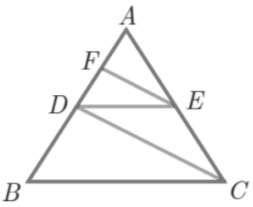




Answer any three of the following questions:-

3 x 2 = 6

5. If $\triangle ABC \sim \triangle DEF$ such that area of the triangle $\triangle ABC$ is 9 cm^2 and the area of $\triangle DEF$ is 16 cm^2 and BC = 2.1 cm. Find the length of EF.



6. .In figure DE || BC and CD || EF. Prove that $AD^2 = AB \times AF$.
7. A vertical stick of length 6 m casts a shadow 400 cm long on the ground and at the same time a tower casts a shadow 28 m long. Using similarity, find the height of the tower.
8. In $\triangle ABC$, D and E are points on the sides AB and AC respectively. Show that DE || BC if AB = 12 cm, AD = 8 cm, AE = 12 cm and AC = 18 cm.

Answer any three of the following questions:- **3 x 5 = 15**

9. Two poles of height 'a' metres and 'b' metres are 'p' metres apart. Prove that the height of the point of intersection of the lines joining the top of each pole to the foot of the The opposite pole is given by ab /(a +b) metres.
10. State and prove the BPT theorem.
11. a) State BPT Theorem.

    b) In trapezium ABCD, AB || DC, E and F are points on non-parallel sides AD and BC respectively, such that EF || AB. Show that AE X FC = BF X ED.
12. A boy of height 90cm is walking away from the base of a lamp post at a speed of 1.2m/sec. If the lamppost is 3.6m above the ground, find the length of his shadow cast after 4 seconds.

All the Best | One Two Katral maiyam