UNDERSTANDING SIMILARITY

In this article, we will tackle this chapter on similarity. There are just two chapters in Geometry, which have theorems i.e Similarity and Circles.

The following theorems in this chapter must be learned thoroughly to score marks in the board paper.
- Basic Proportionality Theorem (frequently asked)
- Theorem on areas of similar triangles (frequently asked)
- Pythagoras Theorem
- 30^0 - 60^0 - 90^0 Theorem
- 45^0 - 45^0 - 90^0 Theorem

PS: Converse of theorems have not to be studied only the property should be known.

Numerical sums are asked from this chapter. Weak students must focus on them. There sums are based on the above theorems and the following properties.
- Angle Bisector Property
- Property of Intercepts of three parallel lines.
- Geometric Mean Property
- Appollonius Therom

Students aiming to score higher must also do the riders. Also do the solved examples from the textbook as they serve as a practice.

Here are some sums for practice.

1) Find the diagonal of a square whose side is $10\sqrt2$ cm.

2) If the sides of a triangle are 6 cm, $6\sqrt3$ cm and 12 cm, find the measures of the angles of a triangle.

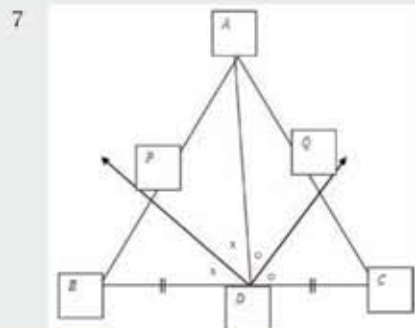3) The side of an equilateral triangle is 6 cm. Find 1) its perimeter 2) height 3) area.

4)
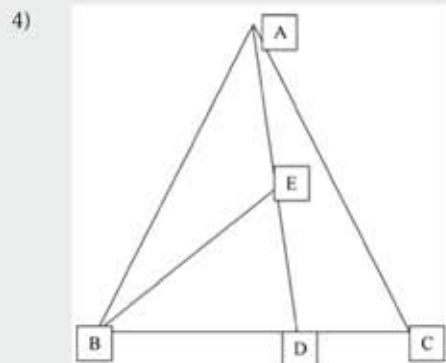
In $\triangle ABC$ AD is the median $\dfrac{AE}{ED} = \dfrac{3}{2}$

Find $\dfrac{A(\triangle BED)}{A(\triangle ABC)}$

5 In $\square ABCD$ AB=AD
Bisectors of $\angle BAD$ and $\angle DAC$ intersect BC and DC in points X and Y. Prove that XY ‖ BD

6)
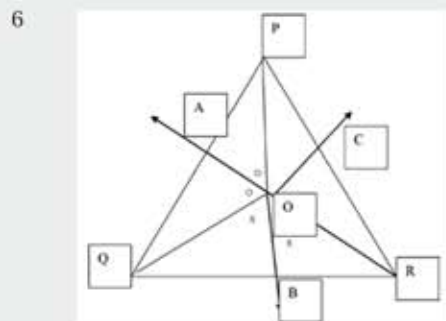
In $\triangle PQR$ OA, OB and OC are angle bisectors.
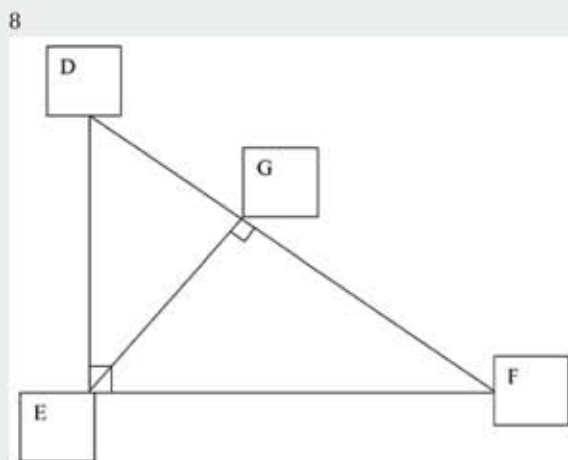$\dfrac{PA}{AQ} \times \dfrac{QB}{BR} \times \dfrac{CR}{PC} = 1$

7)

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In $\triangle$ ABC AD is the median DP and DQ are angle bisectors. Prove that PQ ‖ BC

8

In $\triangle$ DEF $\angle E = 90^0$ EG $\perp$ DF
DG = $6\sqrt3$ cm
GF = $8\sqrt3$ cm
Find 1) EG 2) A($\triangle DEF$)

9 The ratio of the areas of two similar triangles are 9:16. Find the ratio of their corresponding i) sides ii) altitudes

10
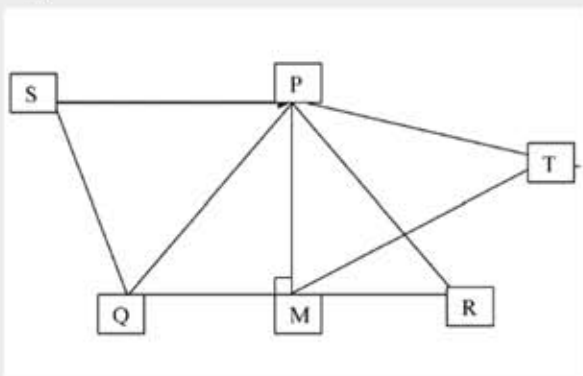
PQR is an equilateral triangle. The triangles PQS and PMT are similar triangles.
Prove that $A(\triangle PQS) = \dfrac{4}{3} A(\triangle PMT)$

On Monday: French

Azad Shrivastav | ADC

A RECORD OF SORTS... Ramaben Shah who had at least a dozen of national and international certificates in the field of art and craft created a Lord Ganesha idol with her eyes closed, in the city on Thursday. Ramaben has made over 2 lakh Ganesh idols in the last 13 years. Every year, she has some record in her name. Ramaben's name has a mention in the Limca Book of Records (12 times), India Book of Records (twice) and Unique World Record.

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By Yatin Ingle

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