X SIMILAR TRIANGLE GUESS QUESTIONS FOR SA-1

1 The diagonals of a trapezium ABCD with AB∥DC intersect each other at point O. If AB=2CD, find the ratio of the areas of triangles AOB and COD.

2 If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, prove that the other two sides are divided in the same ratio.

3 Prove that in a triangle if the square of one side is equal to the sum of the squares of the other two side then the angle opposite to the first side is a right angle.

4 In ΔABC, in fig. a PQ meets AB in P and AC in Q. If AP=1 cm, PB=3cm, AQ=1.5 cm QC=4.5 cm, prove that area of ΔAPQ is one sixteenth of the area of ΔABC.
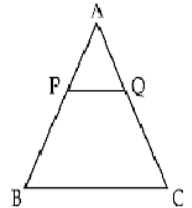
5 Prove that in a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

6 Prove that the ratio of the areas of two similar triangles is equal to the square of the ratio of their corresponding sides.
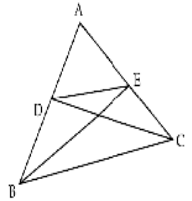
7 In fig. , ΔABE ≅ ΔACD. Prove that ΔADE ~ ΔABC

11 In fig. , ABC is an isosceles triangle right angled at B. Two equilateral triangles are constructed with side BC and AC. Prove that $\text{ar}\,\Delta BCD = 1/2\,\text{ar}\,\Delta ACE$
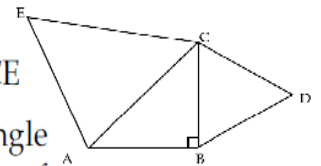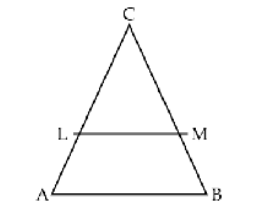
12 Prove that the equilateral triangles described on the two sides of a right-angled triangle are together equal to the equilateral triangle described on the hypotenuse in terms of their areas.
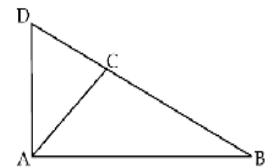
13 In fig. 5, ABD is a triangle in which ∠DAB=90° and AC⊥BD. Prove that $AB^2 = BC \times BD$.
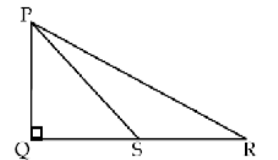
14 In fig. PQR is a right angled triangle in which ∠Q=90°. If QS=SR, show that $PR^2 = 4PS^2 - 3PQ^2$

15 In fig. LM∥AB. If AL=$x-3$, AC=$2x$, BM=$x-2$, BC=$2x+3$, find the value of x.