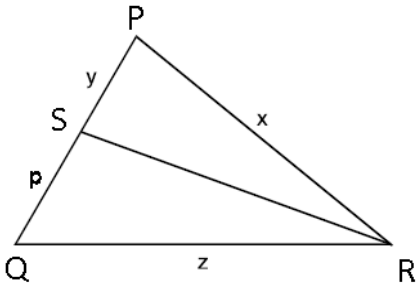
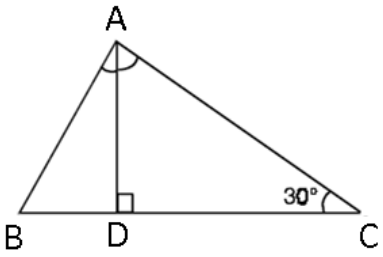
Name: _____

Proportions and Similar Triangles

1) RS is the internal bisector of ∠R of △PQR. For the given dimensions, express p, the length of QS in terms of x, y and z.



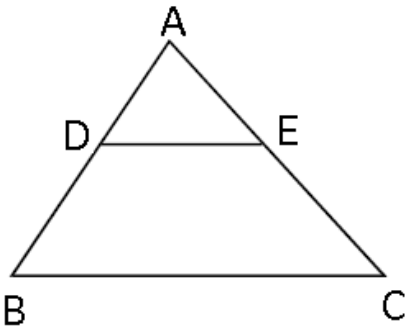
2) ABC is a right triangle with ∠A = 90° and ∠C = 30°. Show that △DAB~ △DCA~ △ACB.



3) Find the ratio of the areas of two similar triangles if the corresponding sides are of lengths 3 cm and 5 cm.

4) ABC is a triangle in which DE || BC. If AB = 6 cm and AD = 2 cm, find

the ratio of the area of △ADE and trapezium DBCE.



5) P, Q and R are the mid-points of the sides AB, BC and CA of the △ABC respectively. Show that the area of △PQR is one-fourth the area of △ABC.

6) In two similar triangles ABC and PQR, if the corresponding altitudes AD and PS are in the ratio of 4 : 9, find the ratio of the areas of △ABC and △PQR.

[Hint: $\frac{AB}{PQ} = \frac{AD}{PS} = \frac{BC}{QR} = \frac{CA}{RP}$]

7) If the ratio of the areas of two similar triangles is 16: 25, find the ratio of their corresponding sides.

8) AD is the internal bisector of ∠A of △ABC. From the given dimension,

Find x.