Work Sheet (SA-1) - - - Triangles
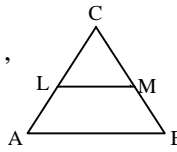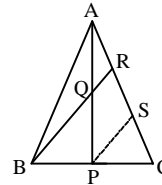
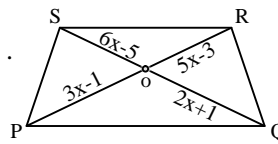Class: X

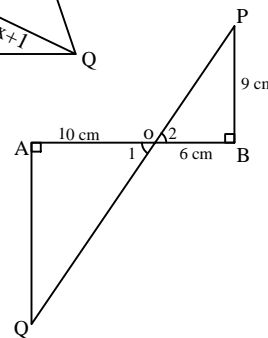1) In the figure LM ∥ AB. If AL = x-3 , AC = 2x , BC = 2x + 3 & BM = x - 2 find x. [ans.9]

2) In the figure P is the mid point of BC and Q is the mid point of AP . If BQ when produced meets AC at R , Prove that $AR = \frac{1}{3} AC$.

3) If the figure PQ ∥ SR . Find the value of x . [ans x=2]

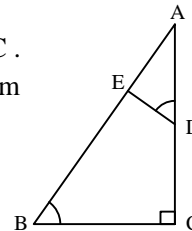4) In the figure QA ⊥ AB and PB ⊥ AB .
If AO = 10 cm , BO = 6 cm and BP = 9 cm
Find AQ . [ans AQ = 15 cm]

5) The perimeters of two similar triangles △ABC and △PQR are respectively 36 cm and 24 cm . If PQ = 10 cm find AB . [ans AB = 15 cm]

6) In the figure ∠ ADE = ∠ B . Prove that △ADE ∽ △ ABC .
If AD = 3.8 cm , AE = 3.6 cm , BE = 2.1 cm and BC = 4.2 cm
find DE . [ans DE = 2.8 cm]

7) Two triangles △BAC and △BDC right angled at A & D respectively are drawn on the same base BC and on the same side of BC . If AC & DB intersect at P , prove that
AP x PC = DP x PB

8) Two poles of height a metre and b metre are p metre apart .
Prove that the height of the point of intersection of the lines joining the top of each pole to the foot of the opposite pole is given by
$\frac{ab}{a + b}$ metre
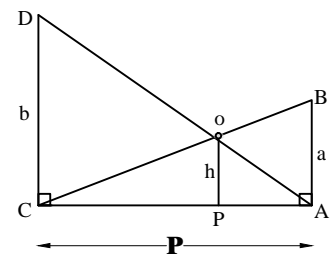
9) P & Q are points on sides AB & AC respectively of △ABC . If AP = 3 cm ,
PB = 6 cm , AQ = 5 cm and QC = 10 cm , Show that BC = 3 PQ.