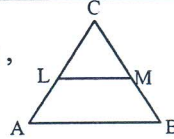
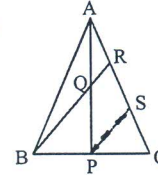


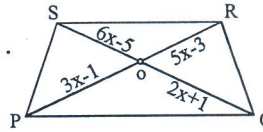
- 1) In the figure $LM \parallel AB$. If $AL = x-3$, $AC = 2x$, $BC = 2x+3$ & $BM = x-2$ find x . [ans.9]



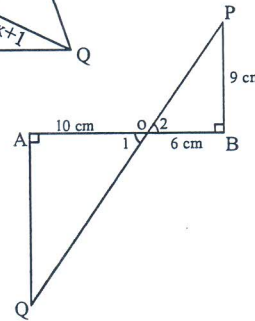
- 2) In the figure P is the mid point of BC and Q is the mid point of AP. If BQ when produced meets AC at R, Prove that $AR = \frac{1}{3} AC$.



- 3) If the figure $PQ \parallel SR$. Find the value of x . [ans $x=2$]

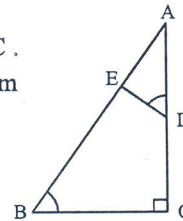


- 4) In the figure $QA \perp AB$ and $PB \perp AB$. If $AO = 10$ cm, $BO = 6$ cm and $BP = 9$ cm Find AQ . [ans $AQ = 15$ cm]



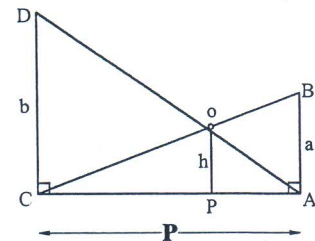
- 5) The perimeters of two similar triangles $\triangle ABC$ and $\triangle PQR$ are respectively 36 cm and 24 cm. If $PQ = 10$ cm find AB . [ans $AB = 15$ cm]

- 6) In the figure $\angle ADE = \angle B$. Prove that $\triangle ADE \sim \triangle ABC$. 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]



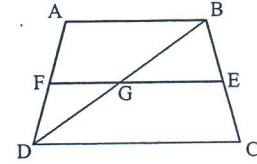
- 7) Two triangles $\triangle BAC$ and $\triangle BDC$ right angled at A & D respectively are drawn on the same base BC and on the same side of BC. If AC & DB intersect at P, prove that $AP \times PC = DP \times PB$

- 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

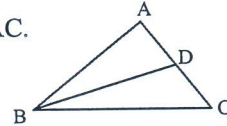


- 9) P & Q are points on sides AB & AC respectively of $\triangle ABC$. If $AP = 3$ cm, $PB = 6$ cm, $AQ = 5$ cm and $QC = 10$ cm, Show that $BC = 3 PQ$.

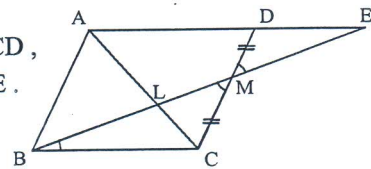
- 10) In trapezium ABCD, $AB \parallel DC$ and $DC = 2 \cdot AB$. EF is drawn parallel to AB cuts AD in F and BC in E, such that $\frac{BE}{EC} = \frac{3}{4}$. Prove that $7FE = 10AB$.



- 11) $\triangle ABC$ is isosceles in which $AB = AC$ and D is a point on AC such that $BC^2 = AC \times CD$. Prove that $BD = BC$.



- 12) Through the midpoint M of the side CD of a parallelogram ABCD, the line BM is drawn intersecting AC in L and AD produced in E. Prove that $EL = 2BL$.



- 13) A ladder 15 m long reaches a window which is 9 m above the ground on one side of a street. Keeping its foot at the same point, the ladder is turned to the other side of the street to reach a window 12 m high. Find the width of the street. [ans 21 m]
- 14) ABC is a right angled triangle with $\angle C = 90^\circ$. Let $BC = a$, $CA = b$ & $AB = c$ and let p be the length of the \perp from C on AB. Prove that (i) $cp = ab$
(ii) $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$
- 15) In the figure D & E trisect the base BC of right $\triangle ABC$ in which $\angle B = 90^\circ$. Prove that $8AE^2 = 3AC^2 + 5AD^2$.

