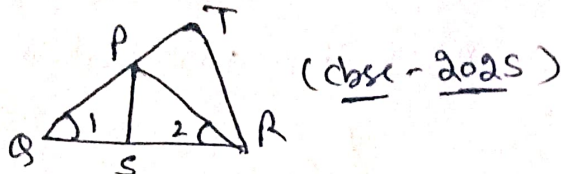


1. If $\triangle ABC \sim \triangle PQR$ in which $AB = 6\text{cm}$, $BC = 4\text{cm}$, $AC = 8\text{cm}$ and $PR = 6\text{cm}$, then find the length of $(PQ + QR)$ (cbse-2025)

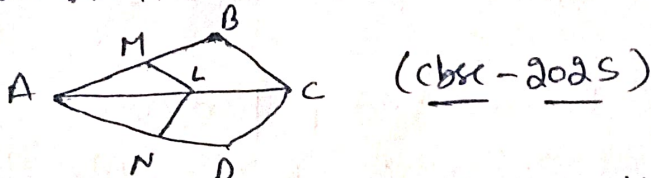
2. In the given figure: $\frac{QR}{QS} = \frac{QT}{PR}$ and $\angle 1 = \angle 2$ show that $\triangle PQS \sim \triangle TQR$



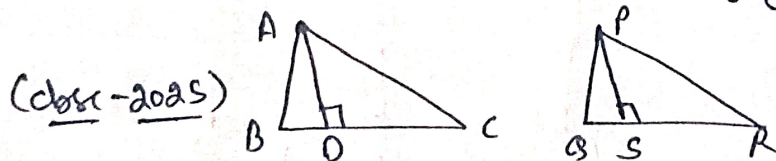
3. The diagonal BD of a parallelogram ABCD intersects the line segment AE at the point F, E is any point on the side BC. Prove that $DF \times EF = FB \times FA$ (cbse-2025)

4. In $\triangle ABC$; if $AD \perp BC$ and $AD^2 = BD \times DC$, then Prove that $\angle BAC = 90^\circ$ (cbse-2025)

5. Prove that a line drawn parallel to one side of a triangle to intersect the other two sides in distinct points divides the other two sides in the same ratio. Hence, in the figure given below, prove that $\frac{AM}{MB} = \frac{AN}{ND}$ where $LM \parallel CB$ and $LN \parallel CD$



6. The corresponding sides of $\triangle ABC$ and $\triangle PQR$ are in the ratio 3:5. $AD \perp BC$ and $PS \perp QR$ as shown in the figure



(i) Prove that $\triangle ADC \sim \triangle PSR$

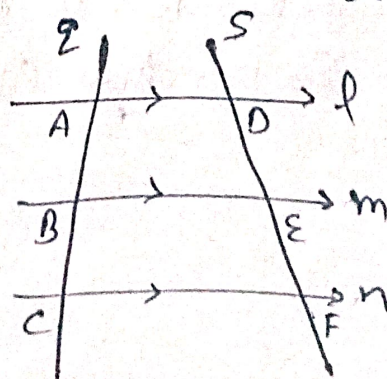
(ii) If $AD = 4\text{cm}$, find the length of PS

(iii) using (ii) find $\text{ar}(\triangle ABC) : \text{ar}(\triangle PQR)$

7. State basic proportionality theorem use it to prove the following:

If three parallel lines, l, m, n are intersected by transversals q and s as shown

then $\frac{AB}{BC} = \frac{DE}{EF}$ (cbse-2025)



8. AD and PS are Medians of triangle ABC and PQR respectively, such that $\triangle ABD \sim \triangle PSS$, Prove that $\triangle ABC \sim \triangle PQR$ (cbse-2025)

9. State and Prove BPT and Converse of BPT (cbse-2025) (cbse-2024)

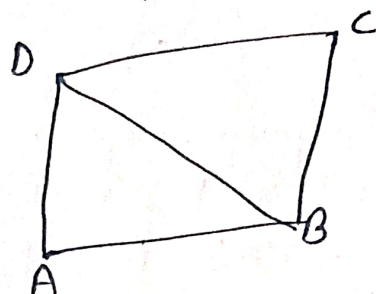
10. P is a point on the side BC of $\triangle ABC$ such that $\angle APC = \angle BAC$.
Prove that $AC^2 = BC \cdot CP$ (cbse-2025)

11. In the given figure, ABCD is a quadrilateral. Diagonal BD bisects $\angle B$ and $\angle D$ Both.

Prove that

(i) $\triangle ABD \sim \triangle CBD$

(ii) $AB = BC$



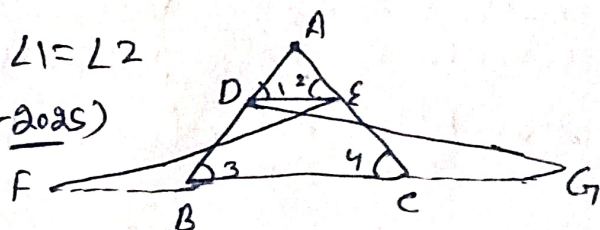
(cbse-2024)

amb

12. Sides AB and AC and Median AD to $\triangle ABC$ are respectively proportional to sides PQ and PR and Median PM of another triangle PQR. Show that $\triangle ABC \sim \triangle PQR$ (cbse-2024) (cbse-2023)

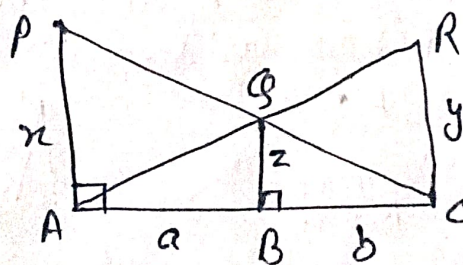
13. In given figure, $\triangle FEC \cong \triangle GDB$ and $\angle 1 = \angle 2$

Prove that $\triangle ADE \sim \triangle ABC$ (cbse-2025)



14. PA, QB and RC are each perpendicular to AC. If $AP = x$, $QB = z$, $RC = y$, $AB = a$ and $BC = b$ then
Prove that $\frac{1}{x} + \frac{1}{y} = \frac{1}{z}$

(cbse-2023) (cbse-2024)



15. Through the mid-point 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 $EL = 2BL$

(cbse-2023)