



VIDYA BHAWAN, BALIKA VIDYAPITH

Shakti Utthan Ashram, Lakhisarai-811311(Bihar)

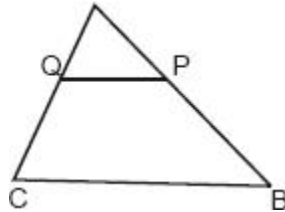
(Affiliated to CBSE up to +2 Level)

CLASS: X

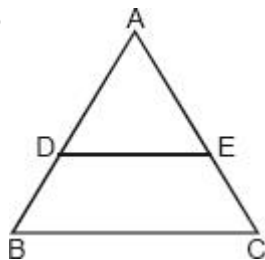
SUB.: MATHS (NCERT BASED)

DATE: 25-02-2021

1. In the fig., P and Q are points on the sides AB and AC respectively of triangle ABC such that AP = 3.5 cm, PB = 7 cm, AQ = 3 cm and QC = 6 cm. If PQ = 4.5 cm, find BC.

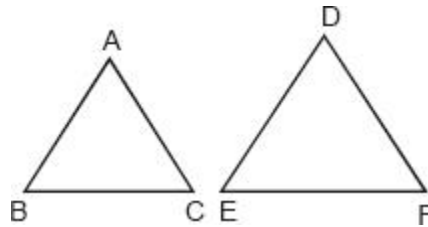


2. The lengths of the diagonals of a rhombus are 30 cm and 40 cm. Find the side of the rhombus.
3. In the fig., $PQ \parallel BC$ and $AP:PB = 1:2$. Find $\frac{\text{ar}(\triangle APQ)}{\text{ar}(\triangle ABC)}$.
4. The perimeter of two similar triangles ABC and LMN are 60 cm and 48 cm respectively. If LM = 8 cm, then what is the length of AB?
5. In $\triangle ABC$ shown in figure, $DE \parallel BC$. If $BC = 8$ cm, $DE = 6$ cm and area of $\triangle ADE = 45$ cm², what is the area of $\triangle ABC$?

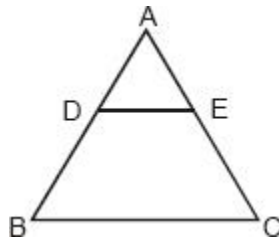


6. If the areas of two similar triangles are in ratio 25 : 64, write the ratio of their corresponding sides.
7. If one diagonal of a trapezium divides the other diagonal in the ratio 1:3. Prove that one of the parallel sides is three times the other.

8. In the given figure, $\triangle ABC$ and $\triangle DEF$ are similar, $BC = 3$ cm, $EF = 4$ cm and area of $\triangle ABC = 54$ cm². Determine the area of $\triangle DEF$.



9. In the given figure, ABC is a triangle in which $AB = AC$, D and E are points on the sides AB and AC respectively, such that $AD = AE$. Show that the points B, C, E and D are concyclic.



10. $ABCD$ is a trapezium with $AB \parallel DC$ in which diagonals AC and BD intersect at E and $\triangle AED \sim \triangle BEC$. Prove that $AD = BC$.

11. ABC is a triangle. PQ is a line segment intersecting AB in P and AC in Q such that $PQ \parallel BC$ and divides $\triangle ABC$ into two parts equal in area. Find BP/AB ,

12. ABC is a triangle in which $AB = AC$ and D is any point in BC . Prove that : $(AB)^2 - (AD)^2 = BD \cdot CD$.

13. AD is the median of $\triangle ABC$, O is any point on AD . BO and CO produced meet AC and AB in E and F respectively. AD is produced to X such that $OD = DX$. Prove that $AO : AX = AF : AB$.

14. In a triangle ABC , P divides the sides AB such that $AP : PB = 1 : 2$, Q is a point on AC such that $PQ \parallel BC$. Find the ratio of the areas of $\triangle APQ$ and trapezium $BPQC$.