MATHEMATICS

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Class – IX

Topic – Area Theorems

- 1. Parallelograms on the same base and between the same parallels are equal in area.
- 2. The area of a triangle is half that of a Parallelogram on the same base and between the same parallels.
- 3. Prove that a median divides a triangle into two triangles of equal area.
- 4. In a ΔXYZ , XA is median on side YZ. Find the ratio of ar(ΔXYA): ar(ΔXZA).
- 5. ABCD is a parallelogram and Q is any point on side AD. If $(\Delta QBC) = 10 \text{ cm}^2$, find ar $(\Delta QAB) + ar(\Delta QDC)$.
- 6. WXYZ is a parallelogram with XP \perp WZ and ZQ \perp WX, XP = 8cm And ZQ=2cm, find YX.
- 7. In a triangle ABC, E is the mid-point of median AD. Show that ar (BED) $=\frac{1}{4}$ ar(ABC).
- 8. In fig, PQRS is parallelogram with PQ=8cm and $ar(\Delta PXQ) = 32cm^2$. find the Altitude of parallelogram PQRS and hence its area.
- 9. Show that the diagonals of a parallelogram divide it into four triangles of equal area
- 10. Diagonals AC and BD of a quadrilateral ABCD intersect each other at P. Show that $ar(\Delta APB) \times ar(\Delta CPD) = ar(\Delta APD) \times ar(\Delta BPC)$.

Answer

- 1. 1:1
- 2. 10cm²
- 3. YX=2cm
- 4. 64 cm^2



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