Class-IX Math Chapter: Area of Parallelogram and Triangles Test Guess question-1

1. In the given fig, BCPQ and BCDA are parallelograms on the same base BC. Find the value of (x + y).

2. ABCD is a parallelogram in which $\angle DAC = 40^0$, $\angle BAC = 30^0$, $\angle DOC = 105^0$, then find the measure of $\angle CDO$.

3. ABCD is a rectangle in which diagonal AC bisects angle A and angle C. Show that ABCD is a square.

4. The angles of a quadrilateral are in the ratio 2:3:6:7. Show that this a trapezium.

5. In fig, PQRS is a parallelogram whose diagonals intersect each other at O . Through O, AB is drawn meet SR at A and PQ at B. Prove that : OA = OB.

6. If the diagonals of a parallelogram are equal, then show that it is a rectangle.

7. Show that the diagonals of a rhombus are perpendicular to each other.

8. ABCD is a parallelogram. L and M are points on AB and DC respectively such that AL = MC. Prove that LM and BD bisect each other.

9. Prove that in a parallelogram, the bisectors of any two consecutive angles intersect at right angle.

10. In fig, ABCD is a square. If $\angle PQR = 900$ and PB = QC = DR, prove that QB = RC and PQ = QR.

11. PQRS is a square and T and U are respectively the mid- points of PS and QR. Find the area of ΔOTS if PQ = 8 cm.

12. Prove that the diagonals of a parallelogram divides it into two equal parts.

13. Prove that opposite sides of a parallelogram are equal.

14. ABCD is a parallelogram and $\angle DAB = 600$. If the bisectors AM and BM of $\angle A$ and $\angle B$ meets CD at M, prove that M is the mid- point of CD.

15. ABCD is a trapezium in which AB‖DC, BD is a diagonal and ZE is the mid- point of AD. A line is drawn through E parallel to AB intersecting BC at F. Show that F is the mid- point of BC.

16. In a trapezium AB||CD, E and F are midpoint of non-parallel sides AD and BC. Show that EF = $\frac{1}{2}$ (AB +CD)

17. ABCD is a parallelogram and E is the mid- point of side BC. DE and AB on producing meet at F. Prove that : AF = 2 AB.

18. ABCD is a parallelogram and X and Y are points on the diagonals BD such that DX = BY. Prove that AXCY is a parallelogram.

19. l, m and n are three parallel lines intersected by transversal p and q such that l, m and n cut off equal intercepts AB and BC on p. Show that l, m and n cut off equal intercepts DE and EF on q also.

20. ABC is an isosceles triangle in which AB =AC, CD ‖ AB and AD is the bisector of exterior $\angle CAE$ of Δ ABC. Prove that $\angle CAD = \angle BCA$ and ABCD is a parallelogram.

21. In a quadrilateral ABCD, AO and BO are the bisectors of $\angle A$ and $\angle B$ respectively. Prove that $\angle AOB = \frac{1}{2}$ ($\angle C + \angle D$).

22. PQRS is a parallelogram in which PQ is produced to T such that QT = PQ. Prove that ST bisects RQ.

23. The angles of a quadrilateral are 5(y + 1), 3(2y + 5), 9y and 10(y+ 4). Find the value of y and assign the name of the quadrilateral ABCD. 24. PQRS is a rhombus with $\angle QPS = 50^0$. Find $\angle PRS$ and $\angle RQS$.

25. PQRS is a parallelogram. M is a point on PS such that PM = $\frac{1}{3}$ PS and N is a point on QR such that RN =$\frac{1}{3}$ QR. Prove that the quadrilateral PNRM is a parallelogram.