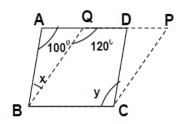
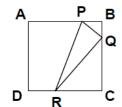
## JSUNL TUTORAL ACBSE Coaching for Mathematics and Science

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  $\angle DAC = 40^{\circ}$ ,  $\angle BAC = 30^{\circ}$ ,  $\angle DOC = 105^{\circ}$ , then find the measure of  $\angle CDO$ .
- 3. ABCD is a rectangle in which diagonal AC bisects angle A and angle C. Show that ABCDis 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  $\Delta$ OTS 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 ABIIDC, 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. I, m and n are three parallel lines intersected by transversal p and q such that I, m and n cut off equal intercepts AB and BC on p. Show that I, m and n cut off equal intercepts DE and EF on q also.
- 20. ABC is an isosceles triangle in which AB =AC, CD  $\parallel$  AB and AD is the bisector of exterior  $\angle$ CAE of  $\triangle$  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 =  $50^{\circ}$ . 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.