I. Objective Questions:

A. Mark the correct alternative in each of the following: **[0.5 x 10 = 5]**

1. A quadrilateral having one and only pair of parallel sides is called

(a) A parallelogram (b) a kite (c) A rhombus (d) a trapezium

2. A quadrilateral whose opposite sides are parallel is called

(a) A rhombus (b) a kite (c) a trapezium (d) none of these

3. A quadrilateral having all sides equal is a

(a) Square (b) parallelogram (c) rhombus (d) kite

4. A quadrilateral whose each angle is a right angle is a

(a) Square (b) rectangle (c) rhombus (d) parallelogram

5. A quadrilateral whose each angle is a right angle and whose all sides are equal is a

(a) Square (b) rectangle (c) rhombus (d) parallelogram

6. A quadrilateral having two pairs of equal adjacent sides but unequal opposite sides is called a

(a) Trapezium (b) parallelogram (c) kite (d) rectangle

7. The diagonals of a quadrilateral bisect each other. This quadrilateral is a

(a) rectangle (b) kite (c) trapezium (d) none of these

8. If the diagonals of a quadrilateral bisect each other at a right angle, then the quadrilateral is a

(a) Parallelogram (b) rectangle (c) rhombus (d) kite

9. An isosceles trapezium has

(a) All sides equal (b) parallel sides equal (c) Non-parallel sides equal (d) any two equal sides

B. In an isosceles trapezium one pair of opposite sides are _____to each other and the other pair of opposite sides are _____ to each other. **[0.5 x 2 = 1]**

II. Short Answer Questions: (Answer any eight questions only) **[3 x 8 = 24]**

Q1. Two angles of a quadrilateral are 89^0 and 113^0. If the other two angles are equal; find the equal angles.

Q2. Two angles of a quadrilateral are 68^0 and 76^0. If the other two angles are in the ratio 5: 7; find the measure of each of them.

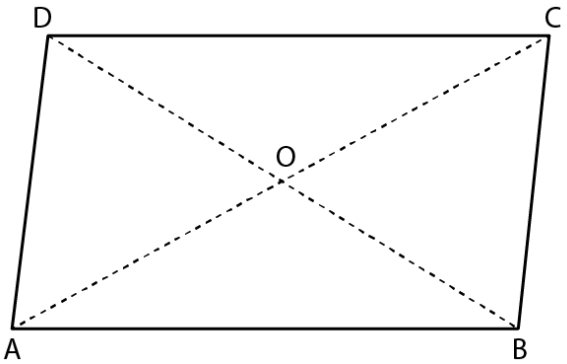
Q3. Three angles of a quadrilateral are equal. If the fourth angle is 69^0; find the measure of equal angles.

Q4. In a trapezium ABCD, side AB is parallel to side DC. If $\angle A = 78^0$ and $\angle C = 120^0$, find angles B and D.

Q5. Two opposite angles of a parallelogram are 100^0 each. Find each of the other two opposite angles.

Q6. Two adjacent angles of a parallelogram are 70^0 and 110^0 respectively. Find the other two angles of it.

Q7. In a parallelogram ABCD, its diagonals AC and BD intersect each other at point O.



If AC = 12 cm and BD = 9 cm; find; lengths of OA and OB

Q8. In a parallelogram ABCD, $\angle A = 90^0$

(i) What is the measure of angle B.

(ii) Write the special name of the parallelogram.

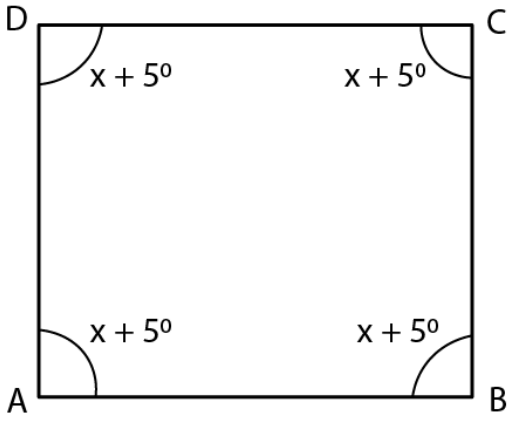
Q9. One diagonal of a rectangle is 18 cm. What is the length of its other diagonal?

Q10. Each angle of a quadrilateral is $x + 5^0$. Find:

(i) the value of x

(ii) each angle of the quadrilateral.

(iii) Give the special name of the quadrilateral taken.



Q11. If three angles of a quadrilateral are 900 each, show that the given quadrilateral is a rectangle.

III. Long Answer Questions: (answer any one) [4 x 1 = 4]

Q1. Angles of a quadrilateral are $(4x)^0$, $5(x+2)^0$, $(7x - 20)^0$ and $6(x + 3)^0$. Find

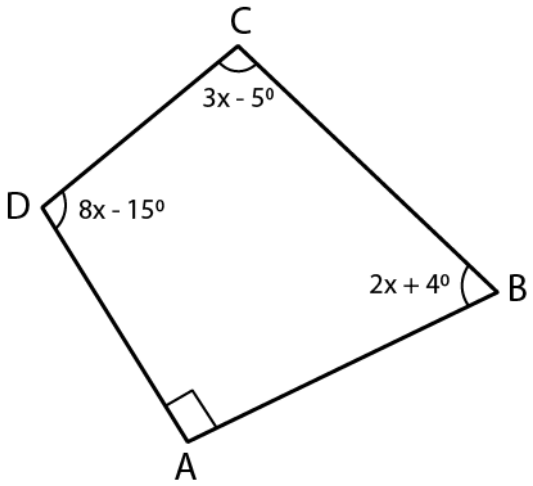
(i) The value of x.

(ii) Each angle of the quadrilateral

Q2. Use the information given in the following figure to find:

(i) X

(ii) ∠B and ∠C



Q3. In quadrilateral ABCD, side AB is parallel to side DC. If ∠A: ∠D = 1: 2 and ∠C: ∠B = 4: 5

(i) Calculate each angle of the quadrilateral.

(ii) Assign a special name to quadrilateral ABCD.

Q4. Given: In quadrilateral ABCD; ∠C = 640, ∠D = ∠C – 80; ∠A = 5(a + 2)0 and ∠B = $2(2a + 7)^0$. Calculate ∠A and value of a.

Q5. In quadrilateral PQRS, ∠P: ∠Q : ∠R: ∠S = 3: 4: 6: 7.

Calculate each angle of the quadrilateral and then prove that PQ and SR are parallel to each other. Is PS also parallel to QR?

Q6. The angles A, B, C and D of a trapezium ABCD are in the ratio 3: 4: 5: 6. Let ∠A: ∠B: ∠C: ∠D = 3: 4: 5: 6. Find all the angles of the trapezium. Also, name the two sides of this trapezium which are parallel to each other. Give reason for your answer