

## CHAPTER-8 | : Quadrilaterals

### QUIZ PART-03

**1. In a parallelogram, what is true about opposite angles?**

- A. They are supplementary
- B. They are equal
- C. They are complementary
- D. They are unequal (B)

**Explanation:** In a parallelogram, opposite angles are always equal by the properties of parallelograms.

**2. In a quadrilateral, if each pair of opposite angles is equal, what can be concluded?**

- A. It is a rectangle
- B. It is a parallelogram
- C. It is a square
- D. It is a trapezium (B)

**Explanation:** If each pair of opposite angles in a quadrilateral is equal, it is a parallelogram as per Theorem 8.5.

**3. The diagonals of a parallelogram:**

- A. Are always equal
- B. Bisect each other
- C. Are perpendicular
- D. Are unequal (B)

**Explanation:** The diagonals of a parallelogram bisect each other, meaning they divide each other into two equal parts.

**4. In a parallelogram PQRS, if  $\angle P = 60^\circ$ , what is  $\angle R$ ?**

- A.  $60^\circ$
- B.  $120^\circ$
- C.  $90^\circ$
- D.  $180^\circ$  (B)

**Explanation:** In a parallelogram, opposite angles are equal. Since  $\angle P = 60^\circ$ ,  $\angle R$  must be  $120^\circ$  because the adjacent angles in a parallelogram are supplementary and sum to  $180^\circ$ .

**5. In parallelogram PQRS, if  $PR = 10$  cm and  $QS = 12$  cm, what is the ratio of  $OQ/OR$  where  $O$  is the point of intersection of diagonals?**

- A. 1.2
- B. 1.5
- C. 1.8
- D. 2 (B)

**Explanation:** In a parallelogram, the diagonals bisect each other. The ratio of  $OQ$  to  $OR$  is the ratio of half the lengths of the diagonals, i.e.,  $QS/PR$   $12/10 = 1.5$ .

**Q6. What is the sum of the interior angles of a parallelogram?**

- A.  $180^\circ$
- B.  $360^\circ$
- C.  $270^\circ$
- D.  $90^\circ$  (B)

**Explanation:** The sum of the interior angles of any quadrilateral, including a parallelogram, is always  $360^\circ$ .

**7. In parallelogram PQRS, if  $\angle P = 40^\circ$ , what is  $\angle Q$ ?**

- A.  $40^\circ$
- B.  $60^\circ$
- C.  $140^\circ$
- D.  $180^\circ$  (C)

**Explanation:** Adjacent angles in a parallelogram are supplementary, so  $\angle P + \angle Q = 180^\circ$ . Hence,  $\angle Q = 180^\circ - 40^\circ = 140^\circ$ .

**8. If the diagonals of a quadrilateral bisect each other, what can be concluded about the quadrilateral?**

- A. It is a rectangle
- B. It is a rhombus
- C. It is a parallelogram
- D. It is a trapezium (C)

**Explanation:** The property that the diagonals of a quadrilateral bisect each other is a defining property of parallelograms.

**9. In parallelogram PQRS, if  $\angle P = 60^\circ$ , what is  $\angle S$ ?**

- A.  $120^\circ$
- B.  $60^\circ$
- C.  $90^\circ$
- D.  $180^\circ$  (A)

**Explanation:** Opposite angles in a parallelogram are equal, so  $\angle P = \angle S$ . Since adjacent angles in a parallelogram are supplementary,  $\angle P + \angle S = 180^\circ$ , so  $\angle S = 120^\circ$ .

**10. Which of the following properties is true for all parallelograms?**

- A. The diagonals are always equal
- B. The diagonals bisect each other
- C. The diagonals are perpendicular
- D. Opposite sides are unequal (B)

**Explanation:** In a parallelogram, the diagonals always bisect each other, but they are not necessarily equal or perpendicular.