

CHAPTER-8 | : Quadrilaterals

QUIZ PART-04

1. What is the property of angles in a rectangle?

- A. All angles are 60°
- B. All angles are 90°
- C. All angles are 120°
- D. Opposite angles are equal (B)

Explanation: In a rectangle, all four angles are right angles, i.e., 90° .

2. In a rhombus, what is true about its diagonals?

- A. They are equal in length
- B. They bisect each other at right angles
- C. They are perpendicular but not equal
- D. They do not bisect each other (B)

Explanation: The diagonals of a rhombus bisect each other at right angles.

3. If a quadrilateral has opposite angles equal, what can be concluded?

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

Explanation: If a quadrilateral has opposite angles equal, it is a parallelogram by Theorem 8.5.

4. What is the sum of the interior angles of any quadrilateral?

- A. 180°
- B. 360°
- C. 270°
- D. 90° (B)

Explanation: The sum of the interior angles of any quadrilateral is 360° .

5. In $\triangle ABC$ and $\triangle CDE$, if $AB = AC$ and $CD = CE$, what congruence rule can be applied?

- A. SSS (Side Side Side)
- B. SAS (Side Angle Side)
- C. ASA (Angle Side Angle)
- D. AAS (Angle Angle Side) (B)

Explanation: The SAS (Side Angle Side) congruence rule applies here since two sides and the included angle are equal.

6. In $\triangle ABC$, $AB = AC$ and AD bisects $\angle A$, what can be concluded about $\triangle ABD$ and $\triangle ACD$?

- A. $\triangle ABD = \triangle ACD$
- B. $\triangle ABO = \triangle ACD$
- C. $\triangle ABD$ is right-angled
- D. $\triangle ABD$ is isosceles (A)

Explanation: Since $AB = AC$ and AD bisects $\angle A$, $\triangle ABD = \triangle ACD$ by the SAS rule.

7. What can be concluded if the diagonals of a quadrilateral bisect each other?

- A. The quadrilateral is a parallelogram
- B. The quadrilateral is a rhombus
- C. The quadrilateral is a rectangle
- D. The quadrilateral is a square (A)

Explanation: If the diagonals of a quadrilateral bisect each other, it is a parallelogram by Theorem 8.7.

8. In $\triangle ABC$, if $AB = AC$ and AD bisects the exterior angle $\angle PAC$, what can be concluded about $\square ABCD$?

- A. $\square ABCD$ is a parallelogram
- B. $\square ABCD$ is a rhombus
- C. $\square ABCD$ is a square
- D. $\square ABCD$ is a rectangle (A)

Explanation: Since AD bisects the exterior angle and $AB = AC$, $\square ABCD$ is a parallelogram by Theorem 8.6.

9. In a parallelogram, if one angle is 60° , what is the measure of the adjacent angle?

- A. 60°
- B. 120°
- C. 90°
- D. 180° (B)

Explanation: Adjacent angles in a parallelogram are supplementary, so the adjacent angle will be 120° .

10. If in a parallelogram PQRS, angle P = 50°

- A. 50°
- B. 130°
- C. 180°
- D. 90° (B)

Explanation: Opposite angles in a parallelogram are equal, so $\angle P = \angle R$. Since adjacent angles are supplementary, angle $R = 180^\circ - 50^\circ = 130^\circ$.