

CHAPTER-8 | : Quadrilaterals

QUIZ PART-10

1. In trapezium ABCD, if $AB \parallel CD$ and $AD = BC$, what can be concluded about $\angle A$ and $\angle B$?

- A. $\angle A = \angle B$
- B. $\angle A \neq \angle B$
- C. $\angle A > \angle B$
- D. $\angle A < \angle B$ (A)

Explanation: Since $AB \parallel CD$ and $AD = BC$, $\angle A$ and $\angle B$ are equal due to the properties of trapeziums.

2. In trapezium ABCD, if $AB \parallel CD$ and $AD = BC$, what is true about $\angle C$ and $\angle D$?

- A. $\angle C = \angle D$
- B. $\angle C \neq \angle D$
- C. $\angle C > \angle D$
- D. $\angle C < \angle D$ (A)

Explanation: In a trapezium with parallel sides and equal non-parallel sides, opposite angles are equal, so $\angle C = \angle D$.

3. In trapezium ABCD, $AB \parallel CD$ and $AD = BC$, which triangles are congruent?

- A. $\triangle ABC \cong \triangle BAD$
- B. $\triangle ABC \cong \triangle CDB$
- C. $\triangle ABC \cong \triangle ADB$
- D. $\triangle BCD \cong \triangle CDB$ (A)

Explanation: $\triangle ABC$ and $\triangle BAD$ are congruent due to the equality of sides and angles (SAS rule).

4. If diagonals AC and BD of trapezium ABCD are equal, what is true?

- A. $\triangle ABC \cong \triangle CDB$
- B. Diagonal BD bisects AC
- C. $AC = BD$
- D. Diagonal BD is larger than AC (C)

Explanation: If $AB \parallel CD$ and $AD = BC$, then diagonals AC and BD are equal.

5. In a trapezium ABCD, if $AB \parallel CD$ and $AD = BC$, what is the property of $\triangle ABC$ and $\triangle BAD$?

- A. They are congruent triangles
- B. They are similar triangles
- C. $\triangle BAD$ is larger than $\triangle ABC$
- D. $\triangle ABC$ is smaller than $\triangle BAD$ (A)

Explanation: $\triangle ABC \cong \triangle BAD$ as their sides and angles satisfy the congruence criteria.

6. In a trapezium ABCD, with $AB \parallel CD$, what can be concluded about the angles $\angle A$ and $\angle D$?

- A. $\angle A = \angle D$
- B. $\angle A \neq \angle D$
- C. $\angle A > \angle D$
- D. $\angle A < \angle D$ (A)

Explanation: Since $AB \parallel CD$ and $AD = BC$, opposite angles $\angle A$ and $\angle D$ are equal.

7. If $AB \parallel CD$ and $AD = BC$ in a trapezium ABCD, what is the relationship between diagonals AC and BD?

- A. They are unequal
- B. They are bisected by each other
- C. They are equal
- D. They are parallel (C)

Explanation: In a trapezium with equal non-parallel sides, the diagonals AC and BD are equal.

8. In trapezium ABCD, if $AB \parallel CD$ and $AD = BC$, how can $\triangle ABC$ and $\triangle BAD$ be proven congruent?

- A. By the AA (Angle-Angle) criterion
- B. By the SAS (Side-Angle-Side) criterion
- C. By the SSS (Side-Side-Side) criterion
- D. By the ASA (Angle-Side-Angle) criterion (B)

Explanation: $\triangle ABC \cong \triangle BAD$ by the SAS criterion, as $AB = AD$, $\angle A = \angle B$, and $BC = AD$.

9. What property does the trapezium ABCD have if $AB \parallel CD$ and $AD = BC$?

- A. The diagonals are perpendicular
- B. The diagonals are equal
- C. The diagonals are unequal
- D. The angles are acute (B)

Explanation: If $AB \parallel CD$ and $AD = BC$, the diagonals of the trapezium are equal.

10. In a trapezium with $AB \parallel CD$ and $AD = BC$, which pair of angles are equal?

- A. $\angle A$ and $\angle C$
- B. $\angle A$ and $\angle B$
- C. $\angle C$ and $\angle D$
- D. $\angle A$ and $\angle D$ (D)

Explanation: In such a trapezium, $\angle A = \angle D$ because opposite angles in a trapezium with equal non-parallel sides are equal.