

CHAPTER-8 | : Quadrilaterals

QUIZ PART-13

1. What does the Mid-point Theorem state about the line joining the midpoints of two sides of a triangle?

- A) It is equal to the third side
- B) It is parallel to the third side and half its length
- C) It is perpendicular to the third side
- D) It divides the triangle into two equal areas (B)

Explanation: The Mid-point Theorem states that the line joining the midpoints of two sides of a triangle is parallel to the third side and half its length.

2. In triangle ABC, if D and E are midpoints of sides AB and AC, then DE is:

- A) Parallel to BC
- B) Equal to BC
- C) Perpendicular to BC
- D) Half the length of BC (A)

Explanation: According to the Mid-point Theorem, DE is parallel to BC.

3. What happens when you join the midpoints of the sides of any triangle?

- A) You form a square
- B) You form a rectangle
- C) You form a parallelogram
- D) You form a smaller triangle (C)

Explanation: Joining the midpoints of the sides of a triangle forms a parallelogram.

4. In a triangle, if D and E are midpoints of sides AB and AC, what is DE equal to in relation to BC?

- A) $DE = BC$
- B) $DE = \frac{1}{2} BC$
- C) $DE = 2 BC$
- D) $DE = 3 BC$ (B)

Explanation: The length of DE is half of BC as per the Mid-point Theorem.

5. If the diagonals of a quadrilateral bisect each other, what type of quadrilateral is formed?

- A) Square
- B) Rectangle
- C) Parallelogram
- D) Trapezium (C)

Explanation: A quadrilateral with diagonals that bisect each other is a parallelogram.

6. In quadrilateral ABCD, if P, Q, R, and S are midpoints, what is PQRS?

- A) Rhombus
- B) Rectangle
- C) Parallelogram
- D) Square (C)

Explanation: The quadrilateral formed by joining the midpoints of the sides of ABCD is a parallelogram.

7. If DE is the midline of triangle ABC, then DE is parallel to:

- A) AB
- B) BC
- C) AC
- D) None of the above (B)

Explanation: In the Mid-point Theorem, DE is parallel to BC, the third side.

8. What is the relationship between the area of the smaller triangle formed by midpoints and the larger triangle?

- A) The areas are equal
- B) The area of the smaller triangle is half the larger triangle
- C) The area of the smaller triangle is a quarter of the larger triangle
- D) The smaller triangle is larger (C)

Explanation: The area of the smaller triangle formed by joining the midpoints is a quarter of the larger triangle.

9. In a quadrilateral, if the diagonals bisect each other and are equal in length, what type of quadrilateral is it?

- A) Square
- B) Rhombus
- C) Parallelogram
- D) Rectangle (D)

Explanation: If the diagonals of a quadrilateral bisect each other and are equal, it is a rectangle.

10. What is the result of joining the midpoints of a triangle?

- A) It divides the triangle into equal parts
- B) It forms a quadrilateral
- C) It bisects the triangle
- D) It creates a smaller triangle (A)

Explanation: Joining the midpoints divides the triangle into two smaller triangles of equal area.