

CHAPTER-6 | Lines and Angles

QUIZ PART-05

1. What is a transversal?

- A. A line that intersects only one line
- B. A line that does not intersect any other lines
- C. A line that intersects two or more lines at distinct points
- D. A line parallel to another line (C)

Explanation: A transversal is a line that intersects two or more lines at distinct points, as illustrated by lines AB and CD being intersected by line PQ at points M and N.

2. What are corresponding angles?

- A. Angles formed on opposite sides of the transversal
- B. Angles that occupy the same relative position at each intersection where a transversal intersects two lines
- C. Angles on the same side of the transversal
- D. Angles that are adjacent to each other (B)

Explanation: Corresponding angles occupy the same relative position at each intersection where a transversal intersects two lines, such as $\angle 1$ & $\angle 5$, $\angle 2$ & $\angle 6$, etc.

3. What are alternate angles?

- A. Angles formed on the same side of the transversal
- B. Angles formed on opposite sides of the transversal
- C. Angles that add up to 180°
- D. Angles formed between two parallel lines (B)

Explanation: Alternate angles are formed on opposite sides of the transversal and are equal when the lines are parallel.

4. What is the sum of consecutive interior angles on the same side of a transversal?

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

Explanation: The sum of consecutive interior angles on the same side of a transversal is always 180° when the lines are parallel.

5. If a transversal intersects two parallel lines, what can be said about the corresponding angles?

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

Explanation: If a transversal intersects two parallel lines, the corresponding angles are equal.

6. If two lines are parallel to a common line, what can be said about these two lines?

- A. They are perpendicular to each other
- B. They are parallel to each other
- C. They are intersecting lines
- D. None of the above (B)

Explanation: If two lines are parallel to a common line, they will also be parallel to each other, as stated in Theorem 6.2.

7. Which of the following is true if a transversal intersects two parallel lines?

- A. Corresponding angles are equal
- B. Alternate angles are unequal
- C. The sum of consecutive interior angles is greater than
- D. Consecutive exterior angles are equal (A)

Explanation: If a transversal intersects two parallel lines, the corresponding angles are equal, as per the properties of parallel lines and transversals.

8. What happens when a transversal intersects two lines such that corresponding angles are equal and alternate angles are equal?

- A. The lines are parallel
- B. The lines are perpendicular
- C. The lines are skewed
- D. The lines are intersecting (A)

Explanation: If corresponding and alternate angles are equal, the two lines are parallel to each other, as per the properties of parallel lines and transversals.

9. What can be concluded if two lines are parallel to the same line?

- A. They are perpendicular to each other
- B. They are parallel to each other
- C. They are skewed
- D. They intersect at a right angle (B)

Explanation: If two lines are parallel to the same line, then those two lines will also be parallel to each other, as per the transitive property of parallel lines.

10. What is the correct statement for lines parallel to the same line?

- A. Lines are always perpendicular
- B. Lines are parallel to each other
- C. Lines intersect at a point
- D. Lines are skew lines

Answer: B

Explanation: If two lines are parallel to the same line, they are also parallel to each other, as demonstrated in the property of parallel lines.