CHAPTER TEST: LINES AND ANGLES
Mathematics | Class IX (2026/L-A/09/NCERT/001)
Time: 1.5 Hours **Max. Marks: 33**

GENERAL INSTRUCTIONS

– All questions are compulsory.

– Section A: 5 MCQs (1 mark each).

– Section B: 4 Short Answer Questions (2 marks each).

– Section C: 4 Long Answer Questions (4 marks each).

– Section D: 4 Objective/Concept Questions (1 mark each).

Section A: Multiple Choice Questions (1 Mark Each)

1. If two lines intersect each other, then the vertically opposite angles are:
   (a) Supplementary (b) Complementary (c) Equal (d) Unequal

2. An angle which is greater than 180° but less than 360° is called:
   (a) Acute angle (b) Obtuse angle (c) Reflex angle (d) Straight angle

3. If a ray stands on a line, then the sum of two adjacent angles so formed is:
   (a) 90° (b) 180° (c) 270° (d) 360°

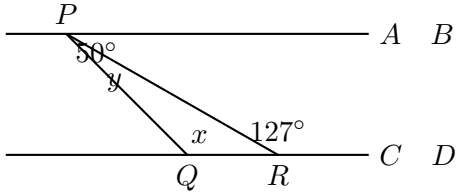
4. If two parallel lines are intersected by a transversal, then each pair of interior angles on the same side of the transversal is:
   (a) Equal (b) Complementary (c) Supplementary (d) None of these

5. The complement of an angle of 35° is:
   (a) 55° (b) 65° (c) 145° (d) 155°

Section B: Short Answer Questions (2 Marks Each)

6. Find the measure of an angle which is four times its supplement.

7. In the given figure, $AB \parallel CD$, $\angle APQ = 50^\circ$ and $\angle PRD = 127^\circ$. Find x and y.



8. If the angles of a triangle are in the ratio $2 : 3 : 4$, find all the angles of the triangle.

9. Define Linear Pair Axiom. Can two acute angles form a linear pair?

Section C: Long Answer Questions (4 Marks Each)

10. Prove that "If a transversal intersects two parallel lines, then each pair of alternate interior angles is equal."

11. In the figure below, POQ is a line. Ray OR is perpendicular to line PQ. OS is another ray lying between rays OP and OR. Prove that: $\angle ROS = \frac{1}{2}(\angle QOS - \angle POS)$. (NCERT Important)

12. If a transversal intersects two lines such that the bisectors of a pair of corresponding angles are parallel, then prove that the two lines are parallel.

13. In the figure, the sides AB and AC of $\triangle ABC$ are produced to points E and D respectively. If bisectors BO and CO of $\angle CBE$ and $\angle BCD$ respectively meet at point O, then prove that $\angle BOC = 90^\circ - \frac{1}{2}\angle BAC$.

Section D: Objective Checklist (1 Mark Each)

1. If three or more points lie on the same line, they are called _____ points.

2. The sum of all angles around a point is _____.

3. If $\angle A$ and $\angle B$ are supplementary and $\angle A = 70^\circ$, then $\angle B =$ _____.

4. A line which intersects two or more lines at distinct points is called a _____.

NCERT IMPORTANT HIGHLIGHTS

Board Exam Preparation

Focus on these high-yield topics:

- **Theorem 6.1:** Vertically opposite angles are equal (frequently asked in ICSE).
- **Transversal Properties:** Identify Z-angles (Alternate), F-angles (Corresponding), and C-angles (Co-interior).
- **Angle Sum Property:** Proof that the sum of angles of a triangle is 180°.
- **Exterior Angle Theorem:** An exterior angle of a triangle is equal to the sum of the two interior opposite angles.