1. Introduction

This chapter introduces the basic concepts of lines and the angles formed when lines intersect or are drawn parallel to each other.

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2. Terms to Know

Term	Description
Line	Straight one-dimensional figure extending infinitely in both directions
Line Segment	Part of a line bounded by two endpoints
Ray	Part of a line with one endpoint extending infinitely in one direction
Angle	The figure formed by two rays with a common endpoint called the vertex

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3. Types of Angles

Angle Type	Description	Measurement Example
Acute Angle	Less than 90°	45°
Right Angle	Exactly 90°	90°
Obtuse Angle	Between 90° and 180°	120°
Straight Angle	Exactly 180°	180°

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4. Angles on a Straight Line

- The sum of angles on a straight line is always 180°.

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5. Angles Around a Point

- The sum of all angles around a point is 360°.

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6. Vertically Opposite Angles

- When two lines intersect, the opposite angles formed are equal.

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7. Parallel Lines and Transversals

- Parallel lines: Lines in the same plane that never meet.
- A transversal is a line that crosses two or more lines.

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8. Angles Formed by a Transversal

Angle Type	Description	Property
Corresponding Angles	Same position relative to parallel lines and transversal	Equal
Alternate Interior Angles	Opposite sides inside the parallel lines	Equal
Alternate Exterior Angles	Opposite sides outside the parallel lines	Equal
Consecutive Interior Angles	Same side inside the parallel lines	Supplementary (sum 180°)

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9. Important Theorems

- Vertically opposite angles are equal.
- Corresponding angles formed by a transversal with parallel lines are equal.
- Alternate interior angles are equal.
- Sum of interior angles on the same side of a transversal is 180°.

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10. Exam Tips

- Practice drawing diagrams for all angle types.
- Memorize properties of angles formed by parallel lines and transversals.
- Solve NCERT problems and use theorems in proof-based questions.

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11. Common Exam Questions

- Define and identify vertically opposite angles.
- State and prove the theorem on corresponding angles.
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Calculate missing angles when given one angle and parallel lines.

- Draw and label angles formed by a transversal.