

SUMMARY

NCERT Class 6 Maths Chapter 2: Lines and Angles

Overview

This summary of **NCERT Class 6 Maths Chapter 2: Lines and Angles** introduces fundamental concepts of plane geometry, including points, lines, rays, line segments, and angles. Designed for students, teachers, and parents, it covers key topics like angle measurement, types of angles, and their applications, perfect for exam preparation and building a strong foundation in geometry. Visit [GovtJobsNet.com](http://www.GovtJobsNet.com) for more educational resources.

Key Concepts

· Points and Lines

- A *point* determines a precise location, denoted by a capital letter (e.g., Point A, Point B).
- A *line segment* is the shortest distance between two points, denoted as \overline{AB} .
- A *line* extends indefinitely in both directions through two points, denoted as AB or by a single letter (e.g., l).
- A *ray* starts at one point (initial point) and extends indefinitely in one direction, denoted as \overrightarrow{AB} .
- Example: A beam of light from a torch represents a ray.

· Angles

- An *angle* is formed by two rays with a common starting point (vertex), denoted as $\angle ABC$ (vertex B in the middle).
- Angles are visualized as the rotation between two rays, e.g., the angle formed by opening a book.
- Angles are measured in degrees ($^\circ$), with a full circle being 360° .

· Types of Angles

- *Acute angle*: Less than 90° (sharp, e.g., 30°).
- *Right angle*: Exactly 90° , formed by perpendicular lines.
- *Obtuse angle*: Greater than 90° but less than 180° (blunt, e.g., 120°).
- *Straight angle*: Exactly 180° , forms a straight line.
- *Reflex angle*: Greater than 180° but less than 360° (e.g., 200°).

· Measuring Angles

- A protractor measures angles by dividing a circle into 360 equal parts, each 1° .
- A straight angle (180°) contains two right angles (90° each).
- Folding a semi-circular sheet can create angles like 45° and 135° by bisecting larger angles.
- Example: The Ashoka Chakras 24 spokes form angles of 15° between adjacent spokes ($360^\circ \div 24$).
- **Comparing Angles**
 - Angles can be compared by superimposition (overlapping vertices and rays) or using a transparent circular sheet.
 - Example: Comparing crane mouth angles by placing a circular sheet to check which angle covers more degrees.
- **Angle Bisector**
 - Bisecting an angle involves dividing it into two equal parts using a fold or a line.
 - Example: Folding a semi-circle in half creates a 90° angle, and further folding bisects it to 45° .

Practice Questions

- Draw and label a ray \overrightarrow{OA} and explain why it cannot be named \overrightarrow{AO} .
- Use a protractor to draw angles of 40° , 110° , and 195° , and classify them as acute, obtuse, or reflex.
- Fold a paper to create a right angle and justify why it is exactly 90° .
- In a triangle, measure the three angles and verify if their sum is 180° .
- Solve the puzzle: Find an acute angle such that doubling, tripling, and quadrupling it yields acute angles, but quintupling it yields an obtuse angle.

Why This Chapter Matters

Understanding lines and angles is essential for mastering geometry and its applications in fields like architecture, engineering, and design. These concepts help students develop spatial reasoning and problem-solving skills. For more study materials and exam tips, explore [GovtJobsNet.com](http://www.GovtJobsNet.com).

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