

Basic Concepts of Geometry

Understanding the Topic

- Geometry is the study of shapes, sizes, and positions of objects.
- It deals with points, lines, angles, surfaces, and solids.
- Basic concepts help us understand and describe the world around us using shapes and space.

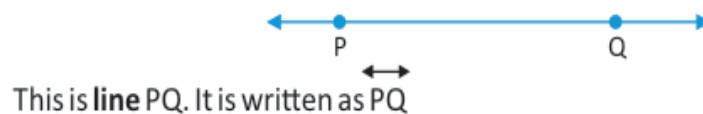
Important Terms in Geometry

- **Point** – A, B and C dot that shows a location. It has no length, width, or thickness.

A, B and C are points.

A • • B • C

- **Line** – A straight path that goes on forever in both directions .



- **Line Segment** – A part of a line with two endpoints.

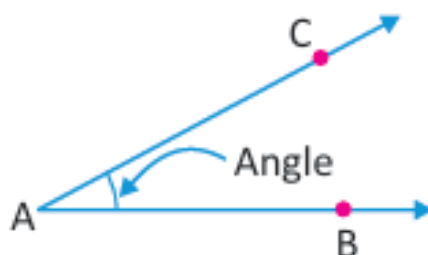


- **Ray** – A part of a line that has one starting point and goes on forever in one direction.



The 'ray PQ' is written as \overrightarrow{PQ} .

- **Angle** – Formed when two rays meet at a common point (called the vertex).





Examples with Solutions

1. Identify a point

A pencil tip is a real-life example of a point

Answer: A point shows position but has no size

2. Example of a line segment

The edge of a ruler is a line segment

Answer: A line segment has two fixed endpoints

3. Difference between a ray and a line

A line has no end on both sides

A ray has a starting point and goes on endlessly in one direction

Answer: Sunlight from the sun is like a ray

4. Naming an angle

If two rays AB and AC meet at point A, the angle is called $\angle BAC$ or $\angle CAB$

Answer: $\angle BAC$ is an angle formed by rays AB and AC

5. Use of geometry in real life

A football field is a rectangle (a geometric shape)

Clock hands form angles

Answer: Geometry helps us describe shapes and spaces in real life.

Summary Points

- Geometry is the study of shapes, sizes, and positions.
- Basic terms include point, line, ray, line segment, angle, and plane.
- A line goes on forever, a segment has two endpoints, and a ray has one starting point.
- Angles are formed when two rays meet at a point.
- Geometry is useful in real-life objects like buildings, clocks, and designs.