

Chapter 1

Basics of Geometry



1.1 - Points, Lines and Planes

1.2 - Measuring and Constructing Segments

1.3 - Using Midpoint and Distance Formulas

1.4 - Perimeter and Area in the Coordinate Plane

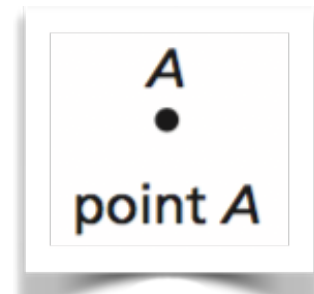
1.5 - Measuring and Constructing Angles

1.6 - Describing Pairs of Angles

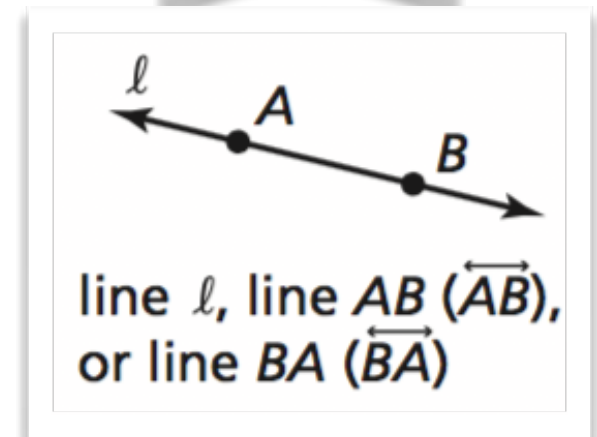
1.1 - Points, Lines and Planes

Undefined Terms

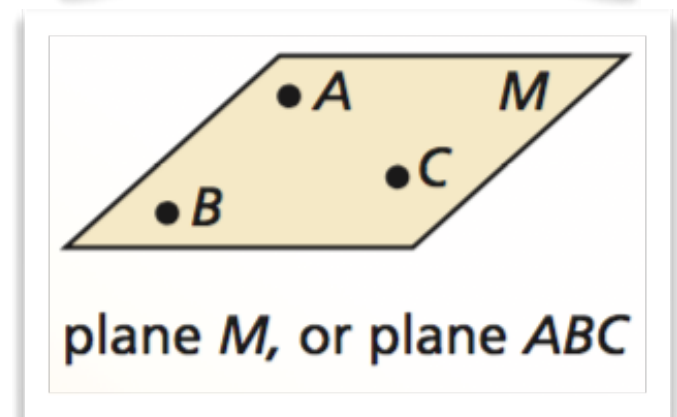
Point - has no dimensions.
Represented by a dot.



Line - has one dimension. It is represented by a line with two arrows. It extends without end.



Plane - has two dimensions. It is represented by a shape that looks like a floor.



1.1 - Points, Lines and Planes

Collinear points - points that lie on the same line.

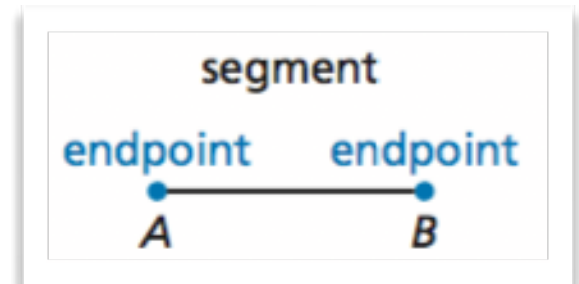
Coplanar points - points that lie on the same plane.

1.1 - Points, Lines and Planes

Defined Terms

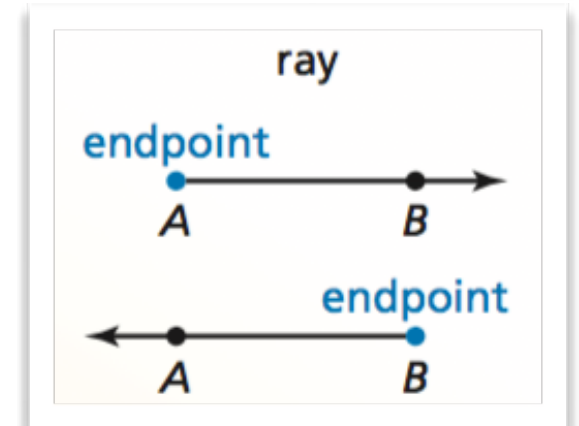
Segment - all points that lie “between” two endpoints.

\overline{AB}
or
 \overline{BA}

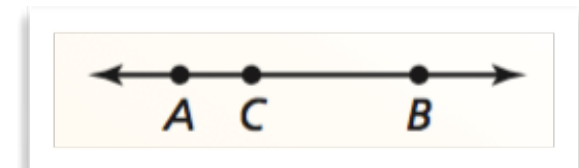


Ray - the part of a line that starts at an endpoint, goes through another point and continues forever.

\longrightarrow
 AB

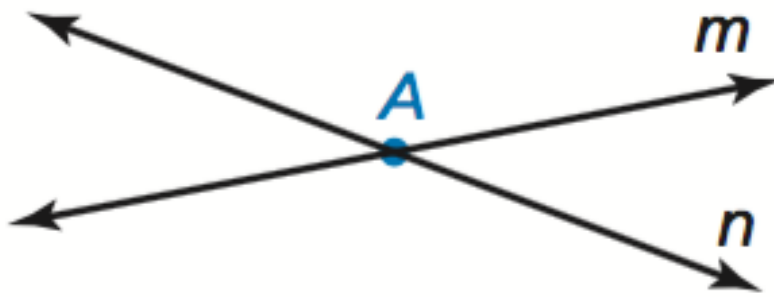


Opposite Rays - two rays that share an endpoint and together make a line.

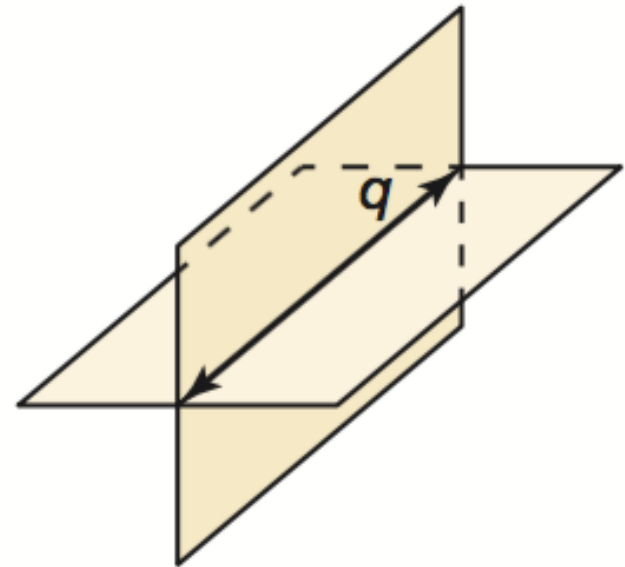


1.1 - Points, Lines and Planes

Intersection



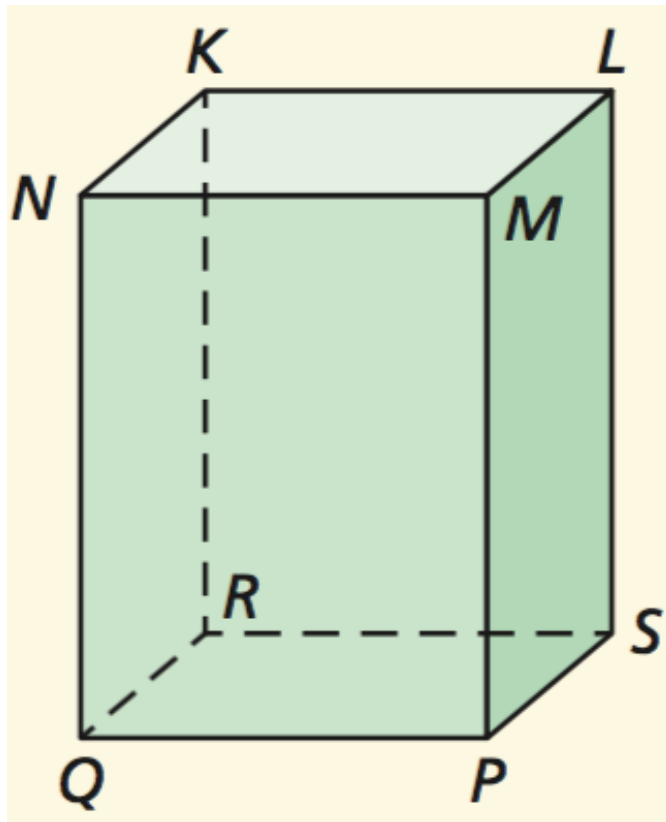
The intersection of two different lines is a point.



The intersection of two different planes is a line.

1.1 - Points, Lines and Planes

Try This



Use the diagram and identify examples of the following:

- 1) a segment
- 2) a plane
- 3) intersection lines
- 4) intersecting planes
- 5) a point not in a plane
- 6) a line not in a plane

1.1 - Points, Lines and Planes

Always, Sometimes, Never

1. A line _____ has endpoints.
2. A line and a point _____ intersect.
3. A plane and a point _____ intersect.
4. Two planes _____ intersect in a line.
5. Any three points _____ determines a plane.
6. Two lines that are not parallel _____ intersect.