
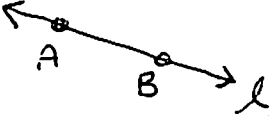

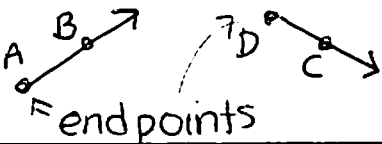



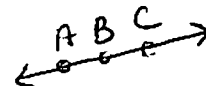
Unit 1.1 Geometric Foundations, Constructions and Relationships

Section 1: Points, Lines, and Planes

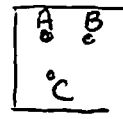
In geometry, *point*, *line*, and *plane* are considered undefined terms because they are only explained using examples and descriptions. They do not have any actual size.

Term	Geometric Figure	Ways to Reference the Figure
<p><u>Point:</u></p> <p>- a specific location w/ no size or shape</p>		Point P
<p><u>Line:</u></p> <p>- made up of an infinite # of pts - extends w/out end in both directions</p>		Line l Line AB \overleftrightarrow{AB} \overleftrightarrow{BA}
<p><u>Line Segment:</u></p> <p>- part of a line w/ a definite beginning and end.</p>		\overline{AB} \overline{BA}
<p><u>Ray:</u></p> <p>starts at a point and extend w/out end in one direction</p>		\overrightarrow{AB} \overrightarrow{DC}
<p><u>Plane:</u></p> <p>flat surface (made up of at least 3 non-collinear pts) that extends in all directions.</p>		plane M plane ABC BCA CBA

Collinear Points: pts that lie on the same line

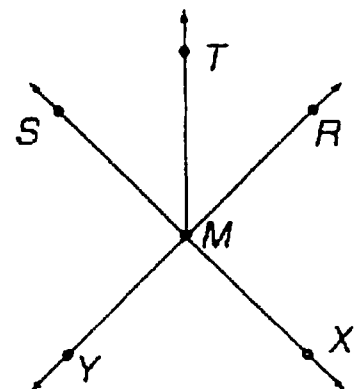


Coplanar Points: pts that lie on the same plane



Ex 1: Refer to the figure at right. Name an example of the following:

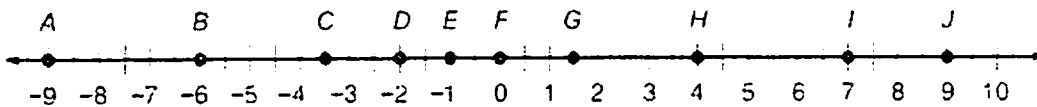
- A point
- A line
- A line segment
- A ray
- Three collinear points
- Three non collinear points



The distance along a line is undefined until a unit distance, such as 1 inch or 1 centimeter is chosen. The measure of the distance between two points on a line is called the Length of that line segment. It is measured by taking the positive difference of the corresponding numbers.

Ex 2:

Use the number line to find each measure.



- | | | | |
|-------|-------|--------|--------|
| 4. HI | 5. AD | 6. BH | 7. AJ |
| 8. BC | 9. CG | 10. CJ | 11. FC |

Parallel and Perpendicular Lines

Term	Diagram
Parallel lines: Parallel lines are coplanar lines that do not intersect	<p>Arrows are used to indicate that lines are parallel.</p>
Perpendicular lines: Lines, segments, or rays that form right angles are perpendicular	<p>$AD \perp BC$</p>

Postulates: statements that are accepted as true without proof

- 1.1 - Two points determine a unique line
- 1.2 - If two distinct lines intersect, then their intersection is a point
- 1.3 - Three noncollinear points determine a unique plane
- 1.4 - If two distinct planes intersect, then their intersection is a line

Ex 3: Name all the planes are that are represented in the figure.

