

# 1.1- Points, Lines, and Planes

You Name  
Mrs. Theo  
8/31/21  
Notes

## Lesson Objectives

- Name points, lines, and planes
- Name segments and rays
- Sketch intersections of lines and planes
- Solve real-life problems involving lines and planes

### The Alphabet of Geometry

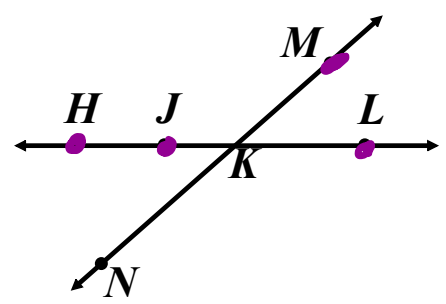
Term	Definition	How to Label?	Diagram
Point	A location in space with no dimension, represented by a dot. <i>OD</i>	Capital letter P	P.
Line	A straight path with no thickness, extending forever in opposite directions. <i>1D</i>	Any two points on the line with a double-sided arrow on top, or a lowercase, italicized letter. <i>line m</i>	
Plane	A flat surface with no thickness, extending forever in all directions on that surface. <i>2D</i>	3 points in the plane that are not on the same line, or Plane ABC A <i>script</i> capital letter. Plane R	

Term	Definition	How to Label?	Diagram
Segment (or Line Segment)	A section of a line consisting of <u>2 points</u> (called <u>endpoints</u> ) and <u>all the points between them</u> .	$\overline{AB}$ $\overline{BA}$ <i>order does not matter</i>	
Ray	A part of a line that <u>starts at an endpoint</u> and <u>extends forever in one direction</u> .	$\overrightarrow{AB}$ $\overrightarrow{BA}$ <i>endpoint first</i> <i>order matters</i>	
Opposite Rays	Rays that <u>share a common endpoint</u> and <u>form a line by extending in opposite directions</u> .	$\overrightarrow{ED}$ $\overrightarrow{EF}$	

Term	Definition
<u>Collinear</u> <i>with</i>	Two or more <u>points</u> that <u>can</u> lie on the <u>same line</u> .
<u>Choose either Collinear or Noncollinear</u>	

*not on the same line*

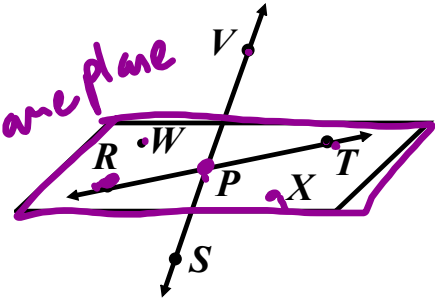
- 1.) H & L are: *Collinear*
- 2.) H, J, & L are: *Collinear*
- 3.) H, K, & N are: *noncollinear*
- 4.) J & M are: *noncollinear*



Term	Definition
<u>Coplanar</u> with	Two or more <u>points</u> that <u>can</u> lie in the same plane.

Choose either Coplanar or Noncoplanar

- 1.) R, P, & X are: **Coplanar**
- 2.) W, T, & X are: **Coplanar**
- 3.) V, P, T, & R are: **Non coplanar**
- 4.) 3 noncollinear points that are coplanar are: **RWX**
- 5.) 3 noncoplanar points are: **V, S, W** or **XRS**



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Homework