1-1: Points, Lines, and Planes
"I WILL …
…identify, name and draw points, lines, and planes."
…apply basic facts about points, lines, and planes."

I. Definitions

A. _____ names a location and has no size.
   1. Use Dots
   2. Use Capital Letters

B. _____ is a straight path that has no thickness and extends forever
   1. Use arrows at both ends
   2. Most points on a line is TWO, Capital Letters

C. _____ is a flat surface and has no thickness and extends forever
   1. Sketch using a parallelogram
   2. Any 3 non collinear points in the plane

D. _____ are points that lie on the same line
   1. If the coordinates of the point satisfy the equation of the line
   2. 3 Non collinear points in the plane

E. _____ are points that do not lie on the same line

F. _____ are points that lie on the same plane.

G. _____ Points that do not lie on the same plane.

II. Visual Examples

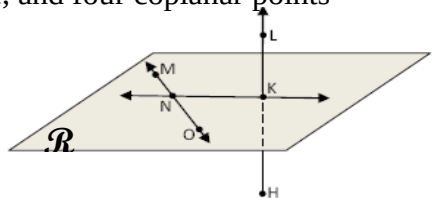
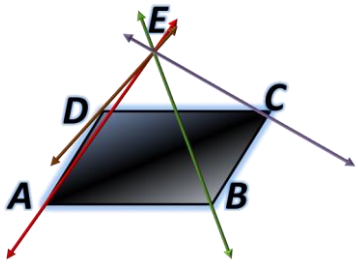
A. Points:

B. Lines:

C. Collinear Points:

D. Non Collinear:

E. Coplanar:

Ex 1: Name three collinear points, line, plane, and four coplanar points	Your Turn: Name four coplanar points and three lines.
	

III. Definitions

A. _____ or line segment is the part of a line consisting of two points and all points between them
B. _____is a point at one end of a segment or starting point of a ray
C. _____ is part of a line that starts at an endpoint and extends forever in one ray
D. _____ are two rays that have a common endpoint and form a line

IV. Visual Examples

A. Segment $\overline{AC}$ or $\overline{CA}$:
B. Endpoint of *A* or *C*:
C. Ray $\overrightarrow{DF}$
D. Ray $\overrightarrow{KJ}$ *or* $\overrightarrow{KL}$

Ex 2: Draw a plane $\mathcal{R}$ containing a line of GH and point of F.	Ex 3: Draw a Plane $\mathcal{Z}$ where $\overleftrightarrow{ST} \perp \overline{XY}$ but *ST* is non-coplanar	Your Turn: Using this graph, identify two opposite rays, a point on $\overrightarrow{BC}$, and a plane which contains the points of E, D, and B.

V. Key Theorems

A. If two lines intersect, they intersect at a point.
B. If two planes intersect, they intersect at a line.
C. If a line and a plane intersect, they intersect at a point.

Ex 4: Sketch a figure that shows two lines intersect in one point in a plane, but only one of the lines lies in the plane.	Your Turn: Sketch a figure that shows Plane *P* and Plane *R* intersect is a line

Pg 9: 13-27 all, 30-34 all, 39-41 all (omit 22)