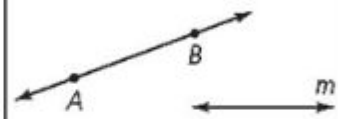
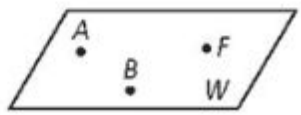
Geometry H **NAME:**_____
Mrs. Diaz **DATE:**_____

UNIT #1

ASSIGNMENT #2 **Practicing Points, Lines, and Planes**

DIRECTIONS: In your groups, ***read and markup*** the chart below. Then answer the questions following the chart. Review these important geometric terms carefully.

Term	Examples of Notation (Symbol)	Diagram
Point	Italicized capital letter: *D*	
Line	Two capital letters with a line drawn over them: $\overleftrightarrow{AB}$ or $\overleftrightarrow{BA}$ One italicized lowercase letter: *m*	
Line Segment	Two capital letters (called endpoints) with a segment drawn over them: $\overline{AB}$ or $\overline{BA}$	
Ray	Two capital letters with a ray symbol drawn over them: $\overrightarrow{AB}$	
Plane	Three capital letters: *ABF, AFB, BAF, BFA, FAB,* or *FBA* One italicized capital letter: *W*	

REMEMBER: In your groups, find a partner, then carefully read each of the statements below, then write an example to help you remember it.

1. When you name a ray, an arrowhead is not drawn over the beginning point.
   EXAMPLE:

2. When you name a plane with three points, choose no more than two collinear points.
   EXAMPLE:

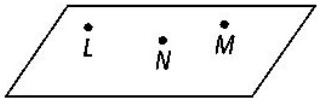
3. An arrow indicates the direction of a path that extends without end.
   EXAMPLE:

4. A plane is represented by a parallelogram. However, the plane actually has no edges. It is flat and extends forever in all directions.
   EXAMPLE:

Exercises

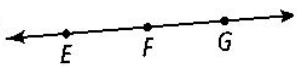
Identify each figure as a *point, segment, ray, line,* or *plane,* and name each.

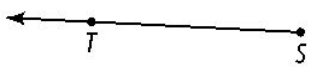
1. 

2. 

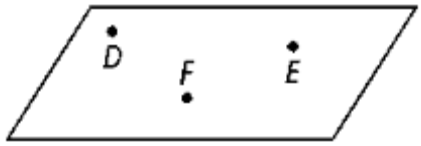
3. 

4. 

5. 

6. 

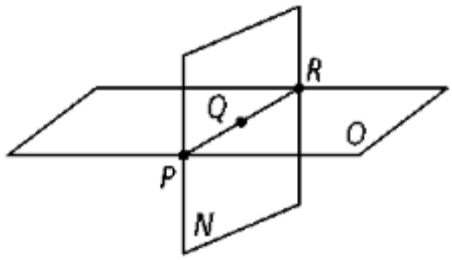
DIRECTIONS: Using a different color pen/pencil, mark up the text below. As the class we make additions, comments, and remarks. Please make sure you use a different color pencil to do all these additional comments.



A *postulate* is a statement that is accepted as true.

Postulate 1–4 states that through any three noncollinear points, there is only one plane. Noncollinear points are points that do not all lie on the same line.

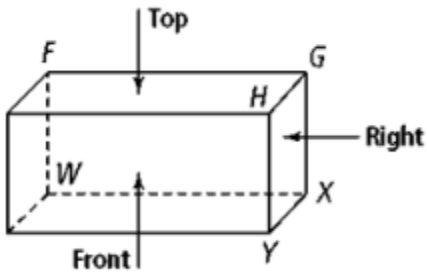
In the figure at the right, points *D, E,* and *F* are noncollinear. These points all lie in one plane.



Three noncollinear points lie in only one plane. Three points that are collinear can be contained by more than one plane. In the figure at the right, points *P, Q,* and *R* are collinear, and lie in both plane *O* and plane *N*.

Exercises

Identify the plane containing the given points as *front, back, left side, right side, top,* or *bottom.*



7. *F, G,* and *X* _____ **8.** *F, G,* and *H* _____

9. *H, I,* and *Z* _____ **10.** *F, W,* and *X* _____

11. *I, W,* and *Z* _____ **12.** *Z, X,* and *Y*_____

13. *H, G,* and *X*_____ **14.** *W, Y,* and *Z* _____

Use the figure at the right to determine how many planes contain the given group of points. Note that $\overleftrightarrow{GF}$ pierces the plane at *R*, $\overleftrightarrow{GF}$ is not coplanar with *X*, and $\overleftrightarrow{GF}$ does not intersect $\overleftrightarrow{CE}$.

15. *C, D,* and *E*

16. *D, E,* and *F*

17. *C, G, E,* and *F*

18. *C* and *F*