

# NEW SECTION IN BINDER! UNIT 5: BASICS OF GEOMETRY AND TRANSFORMATIONS

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If you need more room, get a new binder!

**OBJECTIVE:  
UNDERSTAND THE  
BASICS OF GEOMETRY  
(16.1 AND 16.2)**

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WHAT IS THE DIFFERENCE  
BETWEEN A POINT, A LINE,  
AND A PLANE?

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# Points, Lines, Planes

pg. 775

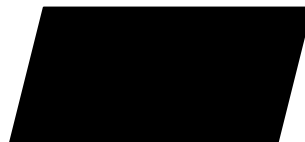
- A **point** is a specific location. It has no dimension and is represented by a dot.



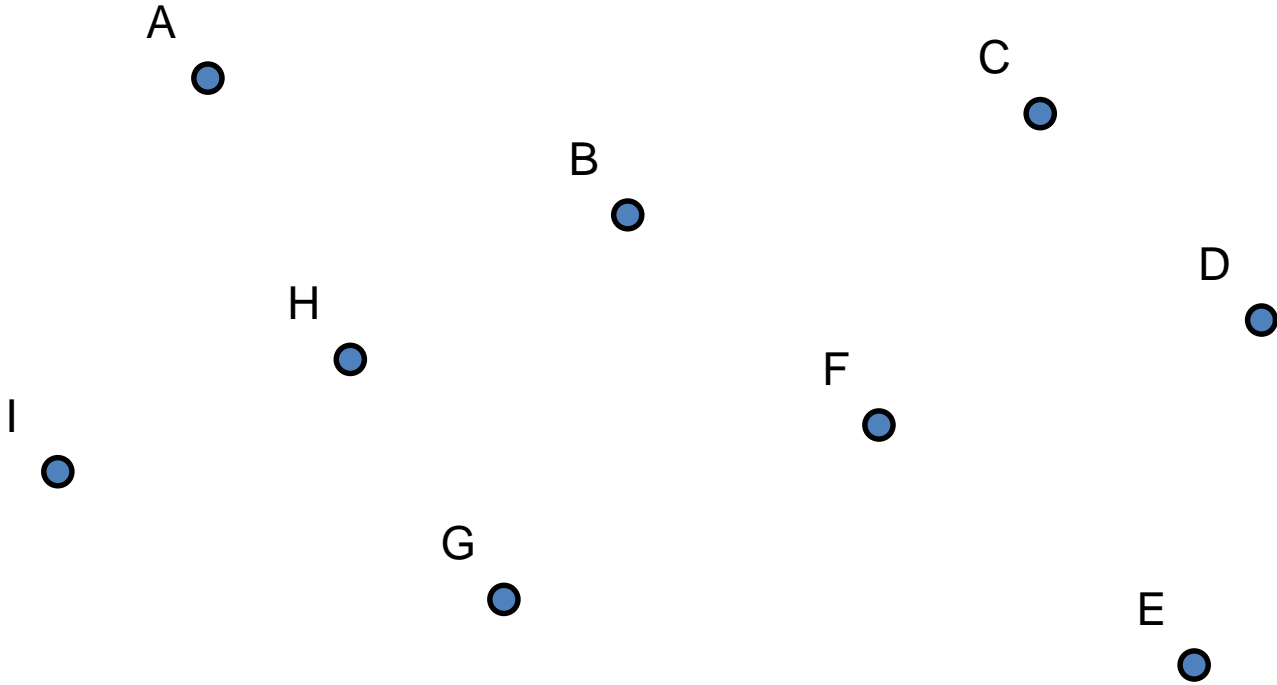
- A **line** is a connected straight path. It has no thickness and it *continues forever* in both directions.



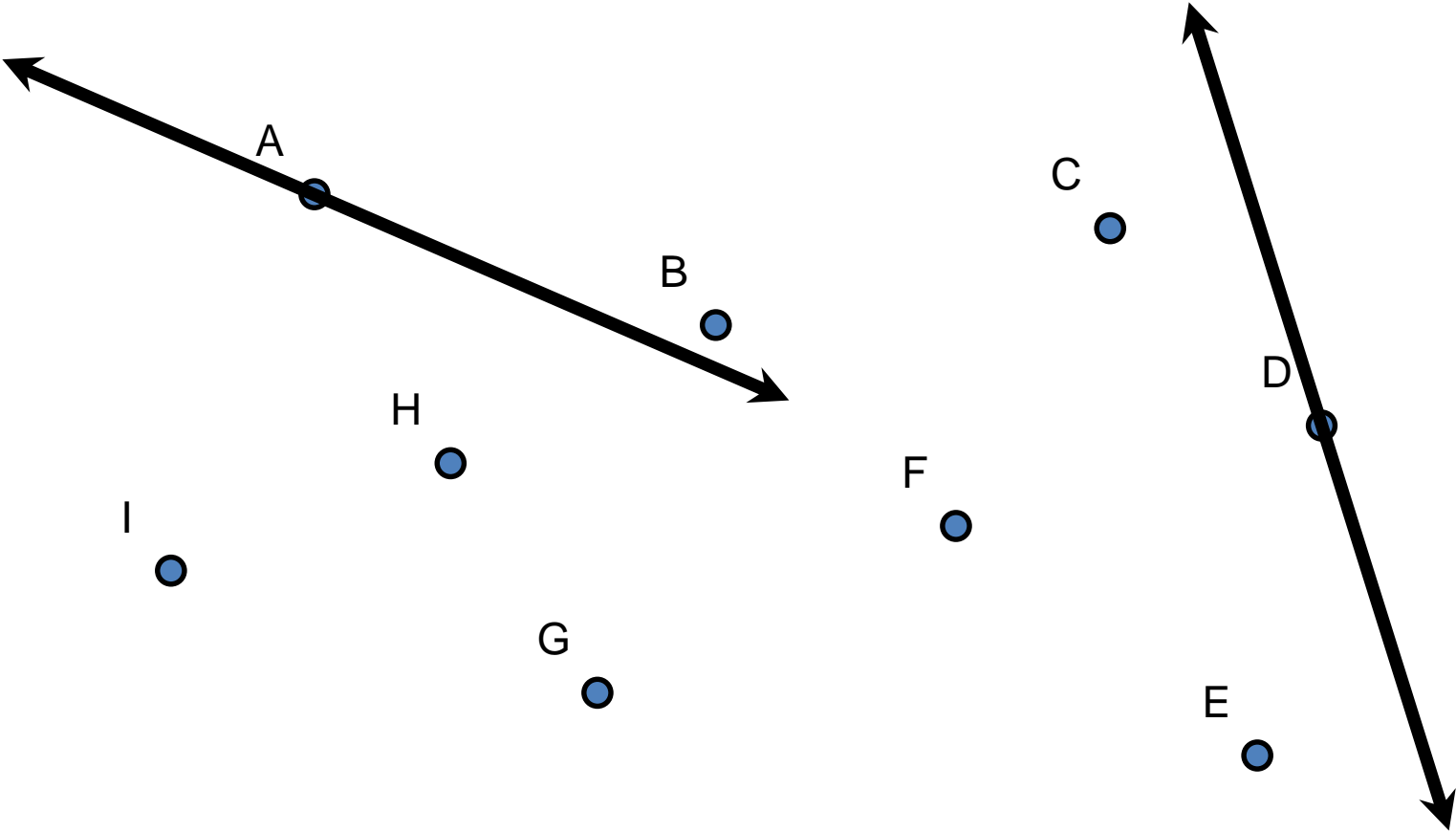
- A **plane** is a flat surface. It has no thickness and it *extends forever* in all directions.



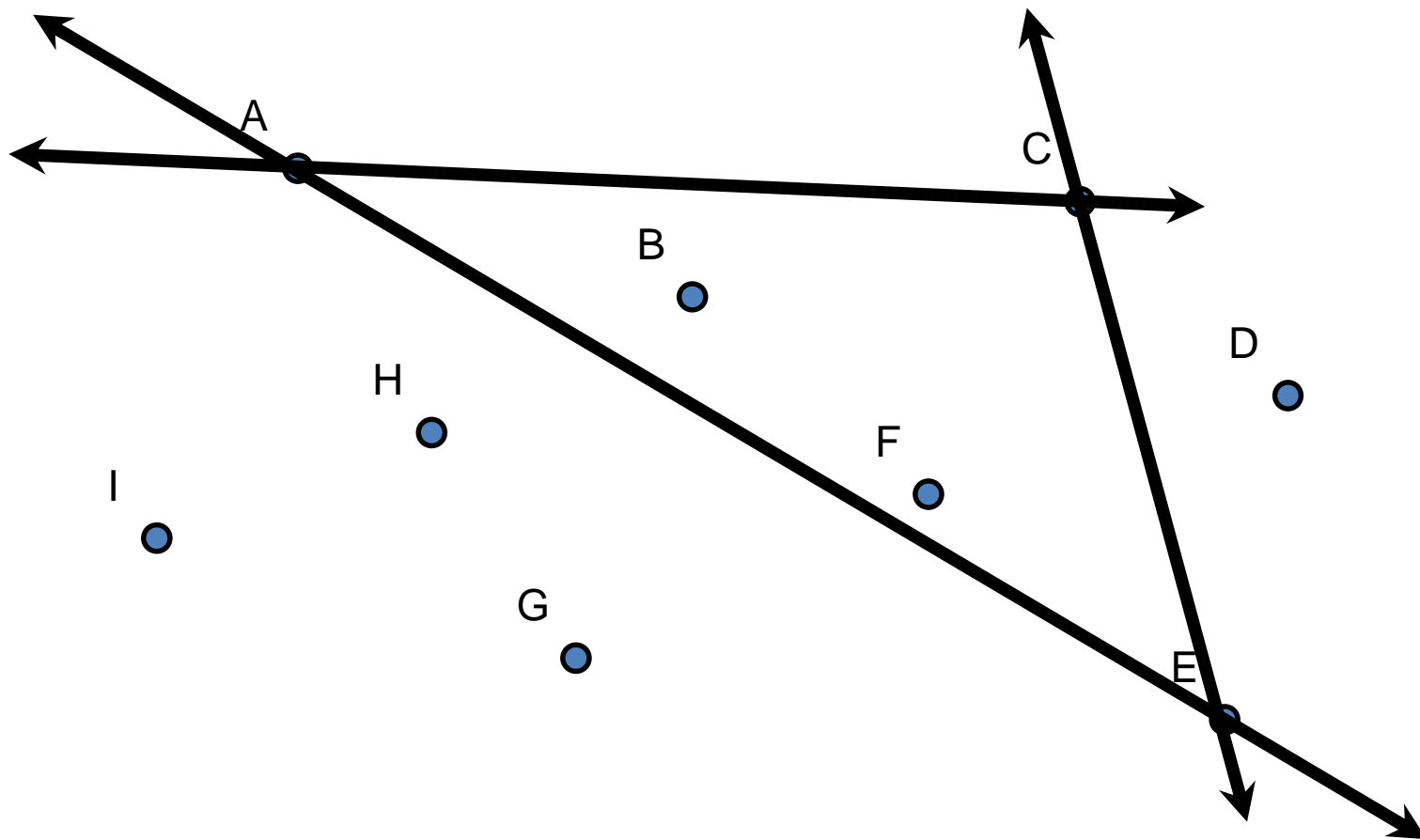
# Naming Points



# Lines



# Naming Lines



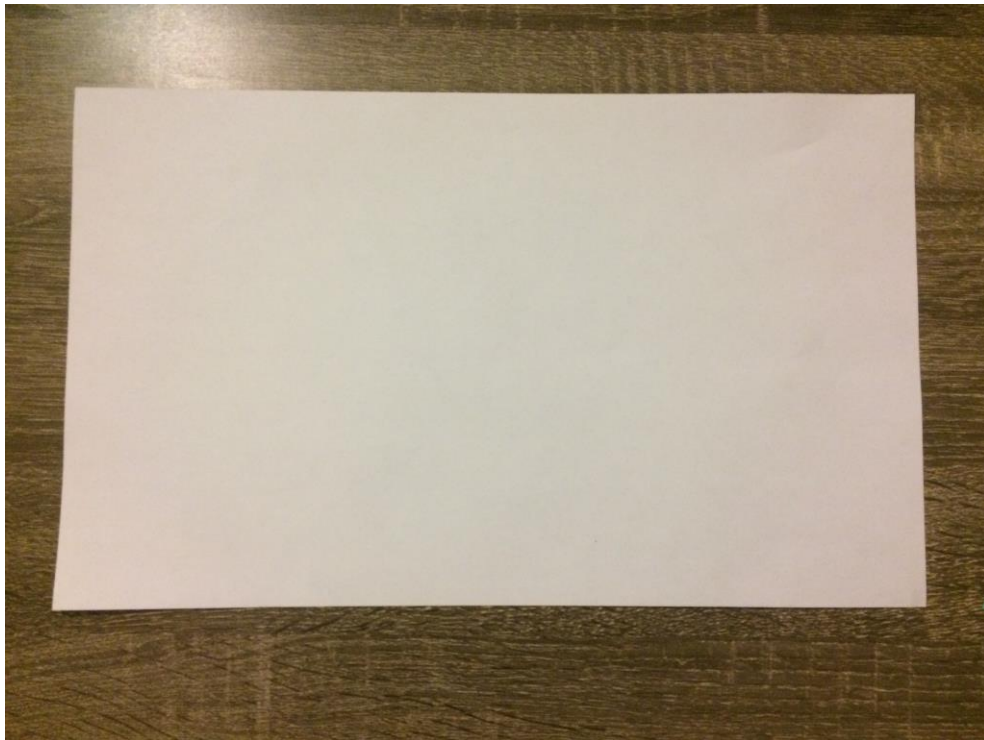
## **Planes**

<https://www.youtube.com/watch?v=k5etrWdIY6o>

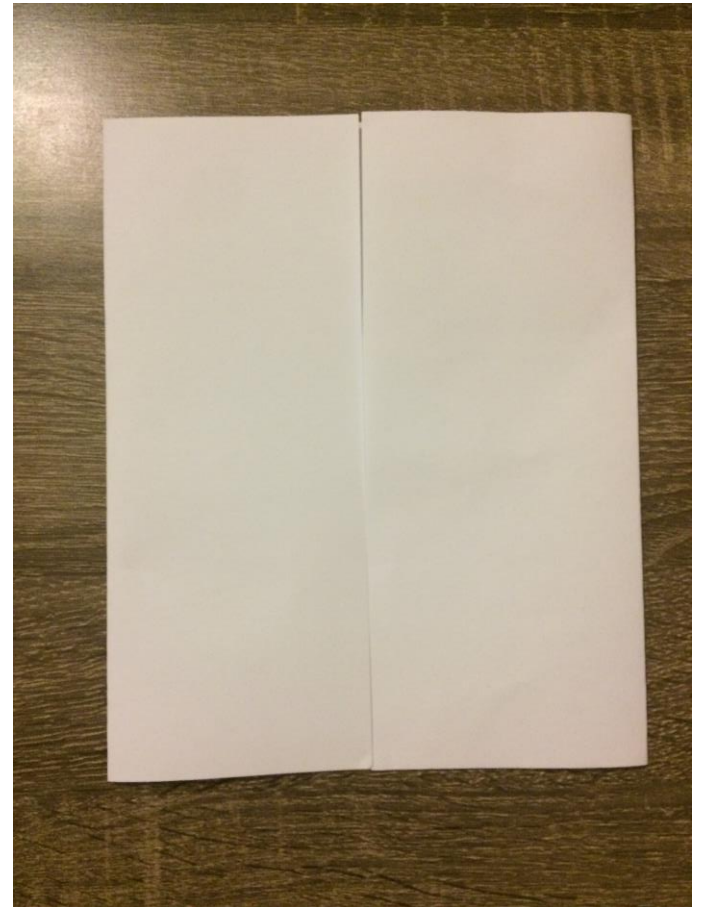


# Foldable

Landscape



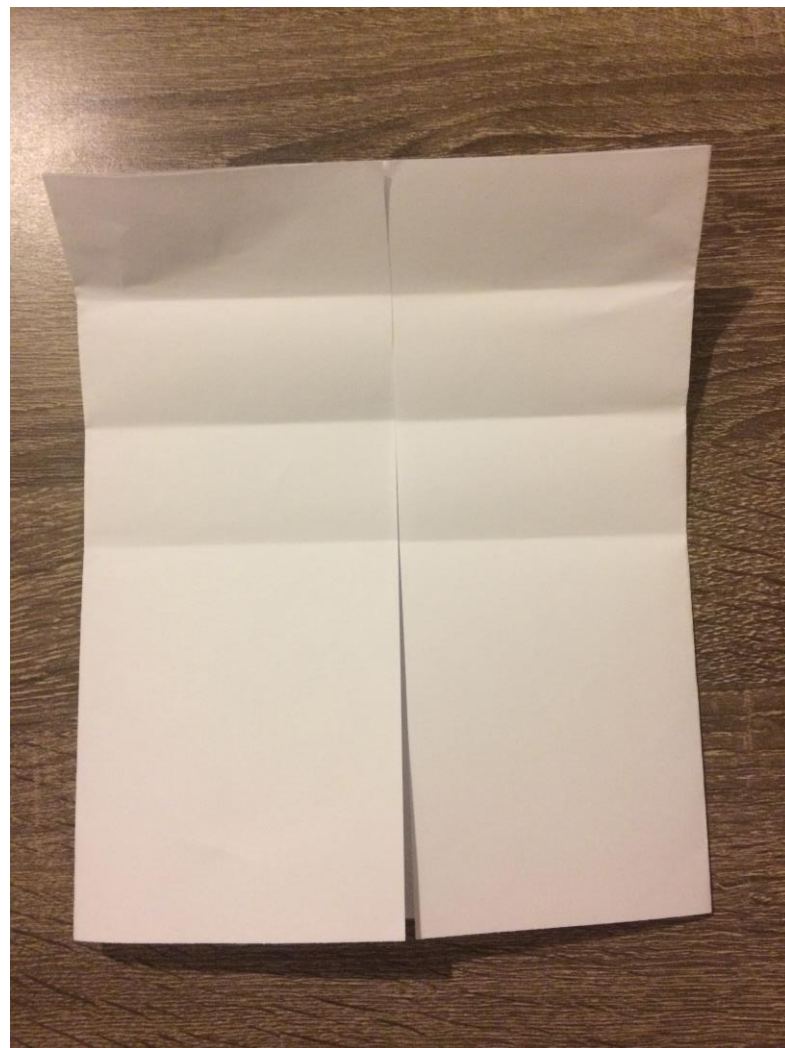
Fold in half



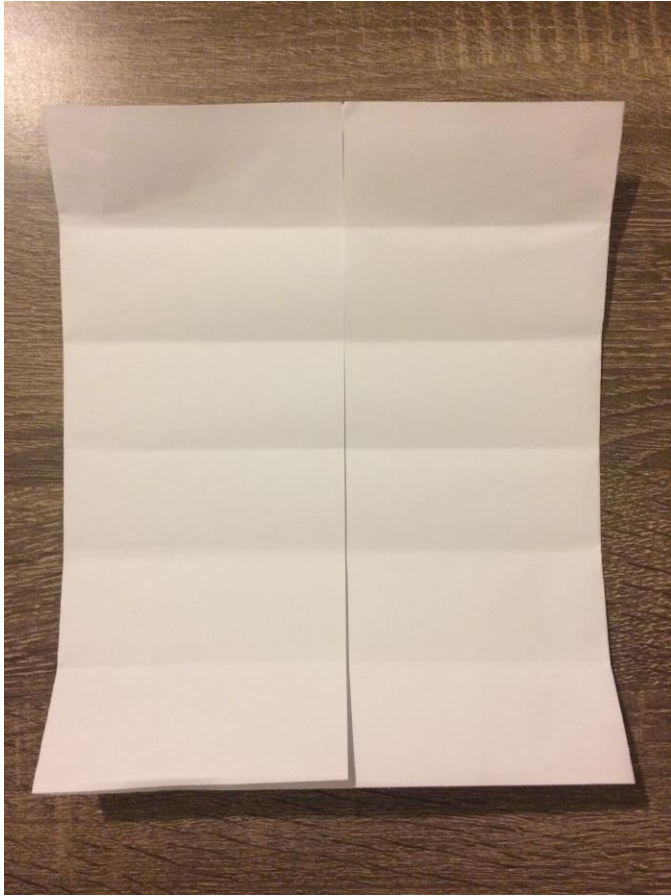
Fold in half



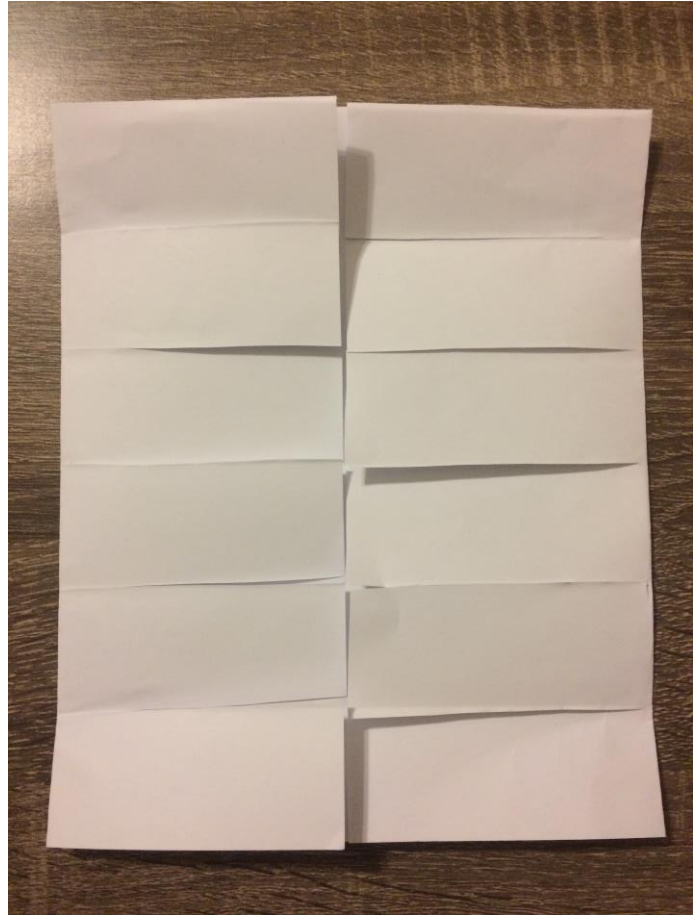
Fold top  $\frac{1}{2}$  into thirds



Total  
Folds



Cut along  
folds





point

Coplanar

line

midpoint

plane

Segment bisector

line segment

angle

ray

angle bisector

Collinear

postulate

# Point

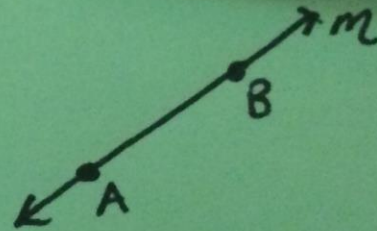
A location  
in space

• P  
point P

line

# Line

a straight path  
that extends  
forever  
(one dimensional)



line  $m$   
 $\longleftrightarrow$   
AB  
 $\longleftrightarrow$   
BA

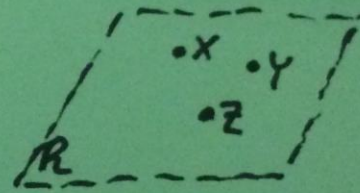
plane

point



# Plane

a flat surface with  
no thickness that  
extends forever  
(two dimensional)



plane  $R$   
plane  $XYZ$   
plane  $ZXY$   
plane  $YZX$

line segment

# Undefined Terms

- Point, line, and plane are undefined terms. We call them this because they are the most basic terms in Geometry.
- They cannot be defined using other terms.



# Defined Terms

- Now that we know what undefined terms are, what are defined terms?
- What is classified as a defined term?
- Defined terms are terms that are defined by undefined terms.