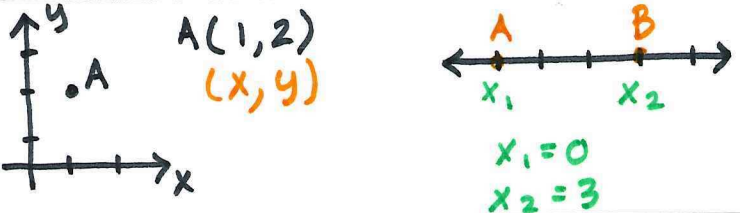

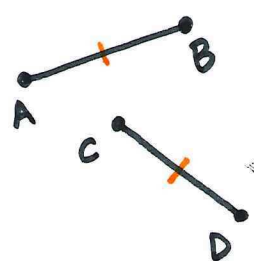
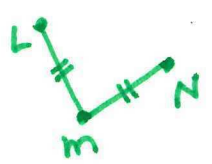


USE SEGMENTS and CONGRUENCE

Vocabulary	Definition	Example
POSTULATE, AXIOM	A rule that is accepted without proof.	
THEOREM	A rule that can be proven.	
COORDINATE	The real number that corresponds to a point.	
DISTANCE	The distance between two points A and B, written AB, is the absolute value of the difference of the coordinates of A and B.	<p>AB = the distance between A and B</p> <p><math>AB =  A - B </math> or <math> B - A </math> * No negative lengths</p>
BETWEEN	When three points are collinear, you can say one point is between the other two.	 <p>C is between E and F on <math>\overleftrightarrow{EF}</math>.</p> <p>* Between does not mean in the middle.</p>
CONGRUENT SEGMENTS	Line segments that have the same length.	<p>congruent: <math>\cong</math></p>  <p>AB = 5 and CD = 5</p> <p>AB = CD</p> <p><math>\overline{AB} \cong \overline{CD}</math></p>  <p><math>\overline{LM} \cong \overline{MN}</math></p>

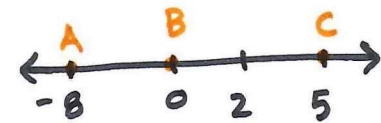
POSTULATE 1 -  
RULER  
POSTULATE

The points on a line can be matched one to one with real numbers. The real number that corresponds to a point is called the coordinate of the point.

The distance between points A and B, written as AB, is the absolute value of the difference of the coordinates A and B.

$$AB = |A - B|$$

$$AB = |x_1 - x_2|$$



$$AB = |-8 - 0|$$

$$= |-8|$$

$$\boxed{AB = 8}$$

$$AC = |-8 - 5|$$

$$= |-13|$$

$$\boxed{AC = 13}$$

POSTULATE 2 -  
SEGMENT  
ADDITION  
POSTULATE

If B is between A and C,  
then  $AB + BC = AC$ .



If  $AB + BC = AC$ ,  
then B is between A and C.



Examples

$$FG = 7$$

$$GH = 4$$

$$FH =$$

$$FG + GH = FH$$

$$7 + 4 = FH$$

$$\boxed{FH = 11}$$

$$FG = 9$$

$$FH = 15$$

$$GH =$$

$$FH - FG = GH$$

$$15 - 9 = GH$$

$$\boxed{GH = 6}$$

$$FG = GH$$

$$FH = 40$$

$$FG =$$

$$FG + GH = 40$$

$$x + x = 40$$

$$2x = 40$$

$$x = 20$$

$$\boxed{FG = 20}$$

$$FG = 3x + 5$$

$$GH = x$$

$$FH = 25$$

$$x = 5$$

$$FG = 3(5) + 5$$

$$= 20$$

$$FG + GH = FH$$

$$3x + 5 + x = 25$$

$$4x + 5 = 25$$

$$\begin{array}{r} -5 \\ 4x + 5 = 25 \\ \hline 4x = 20 \end{array}$$

$$\begin{array}{r} \frac{4x}{4} = \frac{20}{4} \\ \hline x = 5 \end{array}$$

$$FG = GH$$

$$FG = 5x - 8$$

$$GH = 2x + 16$$

$$FH = 64$$

$$FH = 2(FG)$$

$$= 2(5x - 8)$$

$$= 2(40 - 8)$$

$$= 2(32)$$

$$FG = GH$$

$$5x - 8 = 2x + 16$$

$$\begin{array}{r} -2x \quad -2x \\ \hline 3x - 8 = 16 \\ +8 \quad +8 \\ \hline 3x = 24 \end{array}$$

$$x = 8$$