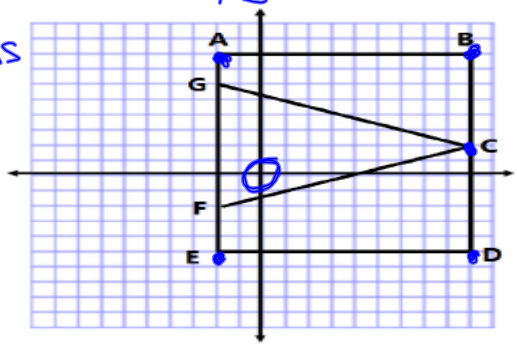
Classwork

Example 1

Determine the lengths of the given line segments by determining the distance between the two endpoints.

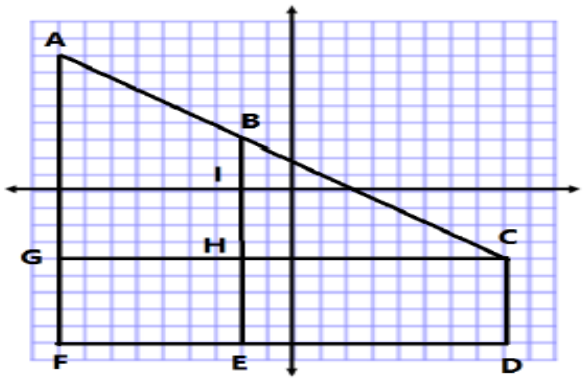
Line Segment	Point	Point	Distance	Proof
$\overline{AB}$	-2,8	9,8	11	|-2| + |9| = 11
$\overline{BC}$	9,8	9,2	6	|8| - |2| = 6
$\overline{CD}$	9,2	9,-5	7	|2| + |-5| = 7
$\overline{BD}$	9,8	9,-5	13	|8| + |-5| = 13
$\overline{DE}$	9,-5	-2,-5	11	|9| + |-2| = 11
$\overline{EF}$			3	
$\overline{FG}$			8	
$\overline{EG}$			11	
$\overline{GA}$			2	
$\overline{FA}$			10	
$\overline{EA}$			13	

- Opposite signs means we add
- same signs, we subtract



Apr 7-5:41 AM

Complete the table using the diagram on the coordinate plane.



Line Segment	Point	Point	Distance	Proof
$\overline{BI}$				
$\overline{BH}$				
$\overline{BE}$				
$\overline{GH}$				
$\overline{HC}$				
$\overline{GC}$				
$\overline{CD}$				
$\overline{FG}$				
$\overline{GA}$				
$\overline{AF}$				

Apr 7-6:14 AM

Extension

For each problem below, write the coordinates of two points that are 5 units apart with the segment connecting these points having the following characteristic:

a. The segment is vertical.

b. The segment intersects the x-axis.

c. The segment intersects the y-axis.

d. The segment is vertical and lies above the x-axis.

Apr 7-6:15 AM

Problem Set

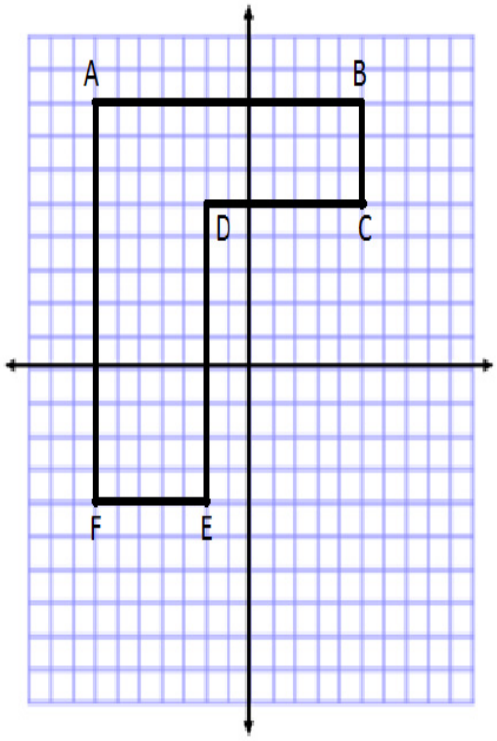
1. Given the pairs of points, determine whether the segment that joins them will be horizontal, vertical, or neither.
   a. $X(3,5)$ and $Y(-2,5)$ _____
   b. $M(-4,9)$ and $N(4,-9)$ _____
   c. $E(-7,1)$ and $F(-7,4)$ _____

2. Complete the table using absolute value to determine the lengths of the line segments.

Line Segment	Point	Point	Distance	Proof
$\overline{AB}$	$(-3,5)$	$(7,5)$		
$\overline{CD}$	$(1,-3)$	$(-6,-3)$		
$\overline{EF}$	$(2,-9)$	$(2,-3)$		
$\overline{GH}$	$(6,1)$	$(6,16)$		
$\overline{JK}$	$(-3,0)$	$(-3,12)$		

Apr 7-6:15 AM

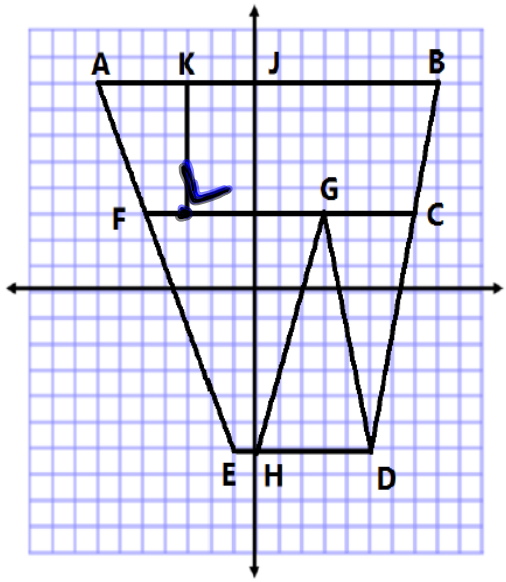
3. Complete the table using the diagram and absolute value to determine the lengths of the line segments.



Line Segment	Point	Point	Distance	Proof
$\overline{AB}$				
$\overline{BC}$				
$\overline{CD}$				
$\overline{DE}$				
$\overline{EF}$				
$\overline{FA}$				

Apr 7-6:16 AM

4. Complete the table using the diagram and absolute value to determine the lengths of the line segments.



Line Segment	Point	Point	Distance	Proof
$\overline{AB}$				
$\overline{CG}$				
$\overline{CF}$				
$\overline{GF}$				
$\overline{DH}$				
$\overline{DE}$				
$\overline{HJ}$				
$\overline{KL}$				

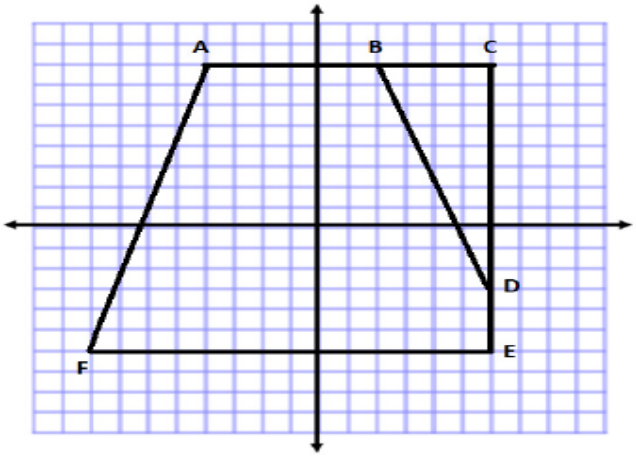
5. Name two points in different quadrants that form a vertical line segment that is 8 units in length.

6. Name two points in the same quadrant that form a horizontal line segment that is 5 units in length.

Apr 7-6:16 AM

Exit Ticket

Use absolute value to show the lengths of $\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{DE}$, and $\overline{EF}$.



Line Segment	Point	Point	Distance	Proof
$\overline{AB}$				
$\overline{BC}$				
$\overline{CD}$				
$\overline{DE}$				
$\overline{EF}$				

Apr 7-6:17 AM