Geometry – A

Name: _____

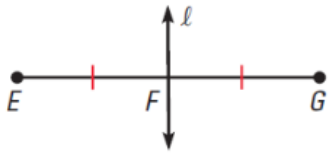
1.3 Midpoint Formula

Date: _____ Period: ____

- I can perform calculations using the midpoint formula.
  - I can calculate the midpoint of a segment.
  - I can apply the midpoint formula to solve a context problem.

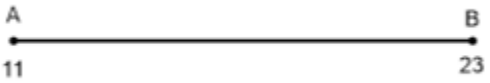
Bisector: Line l bisects the segment. Find the indicated length.

1. Find EG if $EF = 13$ cm.

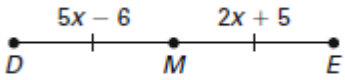


Midpoint Formula: 1 dimension $M = \frac{x_1 + x_2}{2}$

2. Find the midpoint of the line segment.



3. Using Midpoints: In the diagram, M is the midpoint of the segment. Find DE.



Midpoint Formula: 2 dimensions $M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

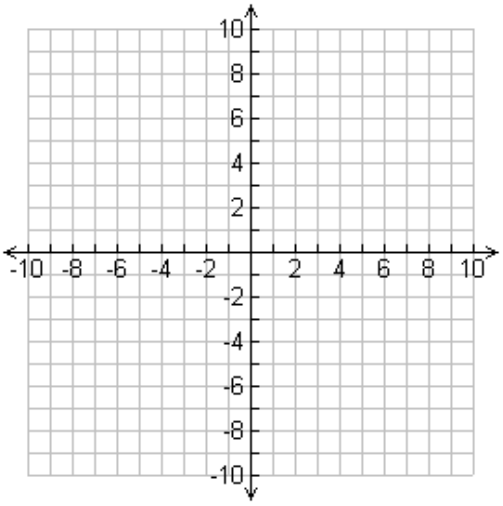
4. Find the midpoint of a line with the given endpoints: A(4, -3) and B(5, 6)

5. Caliyaah is traveling to Peru for her summer vacation. She looks at a map of the path of her flight. Her plane leaves from Georgia, located at (5, 16) on the map's coordinate grid, makes a stop at the halfway point, Panama, and then heads to its destination, Peru, located at (7, 8) on the map's coordinate grid. Find the location of Panama on Caliyaah's map.

6. Find the second endpoint of the line with the given endpoint (P) and midpoint (M).

   a) P(7, -17) and M(-2, 3)

   b) P(8, 0) and M(6, -5)



Geometry – A

Name: _____

1.3 Distance Formula

Date: _____ Period: ____

- I can perform calculations using the distance formula.
  - I can calculate the distance between two points.
  - I can apply the distance formula to solve a context problem.

Distance Formula: 1 dimension $D = |x_2 - x_1|$

1. Find the length of the line segment.

Distance Formula: 2 dimensions $D = \sqrt{x_2 - x_1^{\ 2} + y_2 - y_1^{\ 2}}$

2. Find the distance between two given points.

   a) A(3, 5) and B(5, 7)

   b) R(2, 3) and S(4, -1)

Extension: Is $\overline{AB} \cong \overline{RS}$? Explain ☺

3. In the diagram to the right, is the distance from Joan's home to school the same as the distance from Starbucks to Joan's home? Explain.