Section 1: Introduction to Geometry – Points, Lines, and Planes

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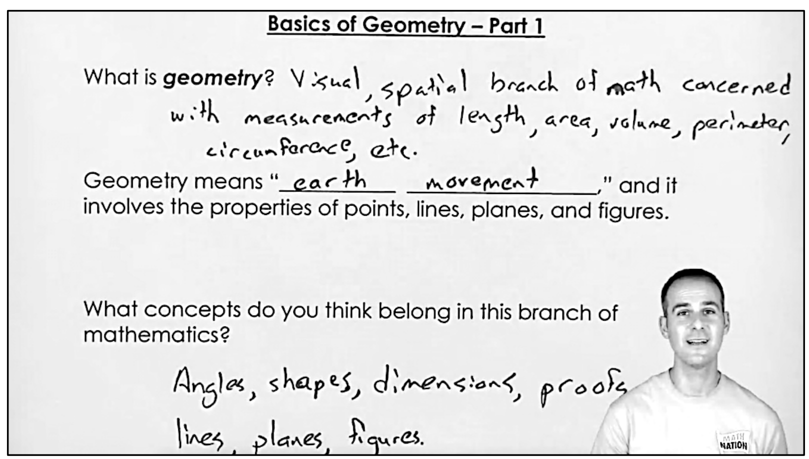


The following Mathematics Florida Standards will be covered in this section:
G-CO.1.1 - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
G-CO.3.9 - Prove theorems about lines and angles; use theorems about lines and angles to solve problems. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
G-CO.4.12 - Make formal geometric constructions with a variety of tools and methods. *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*
G-GPE.2.5 - Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems.
G-GPE.2.6 - Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
G-GPE.2.7 - Use coordinates to compute the perimeter of polygons and areas of triangles and rectangles.

Section 1: Introduction to Geometry – Points, Lines and Planes
Section 1 – Topic 1
Basics of Geometry – Part 1

What is ***geometry***?

Geometry means "___________ __________________," and it involves the properties of points, lines, planes and figures.

What concepts do you think belong in this branch of mathematics?

Why does geometry matter? When is geometry used in the real world?

Points, lines, and planes are the building blocks of geometry.

Draw a representation for each of the following and fill in the appropriate notation on the chart below.

Description	Representation	Notation
A ***point*** is a precise location or place on a plane. It is usually represented by a dot.		
A ***line*** is a straight path that continues in both directions forever. Lines are one-dimensional.		
A ***plane*** is a flat, two-dimensional object. It has no thickness and extends forever.		
Definition	**Representation**	**Notation**
A ***line segment*** is a portion of a line located between two points.		
A ***ray*** is piece of a line that starts at one point and extends infinitely in one direction.		

Definition	Representation	Notation
A ***plane*** is a flat, two-dimensional object. It has no thickness and extends forever.		
An ***angle*** is formed by two rays with the same endpoint.		
The point where the rays meet is called the ***vertex***.		
Parallel lines are two lines on the same plane that do not intersect.		
Perpendicular lines are two intersecting lines that form a 90° angle.		

What can you say about multiple points on a line segment?

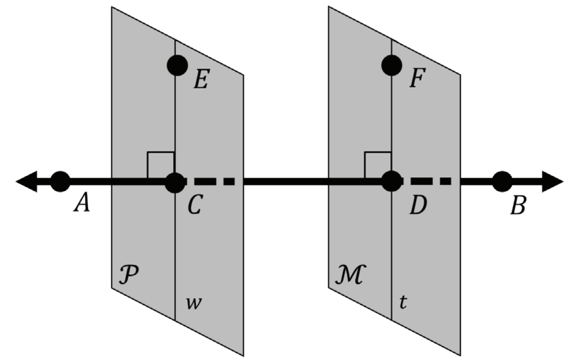
TAKE NOTE! *Postulates & Theorems*

Segment Addition Postulate

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

Let's Practice!

1. Consider the diagram below with parallel planes $\mathcal{P}$ and $\mathcal{M}$.



Give at most 3 names that represents the figure in the diagram above.

Figure	Name(s) denoted in diagram
Point	
Line	
Line Segment	
Plane	
Ray	
Angle	
Parallel Lines	
Perpendicular Lines	
Segment Addition Postulate	

Try It!

2. Consider the descriptions of points, lines, and planes you have learned so far.

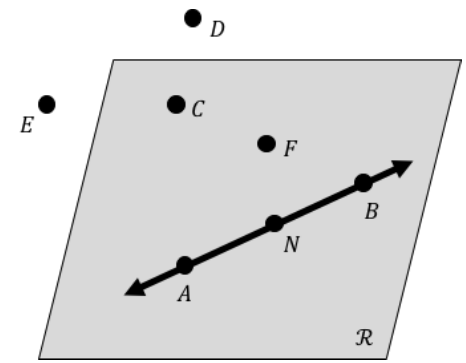
   Use the word bank to complete the descriptions below. Draw a representation of each one.

Word Bank	Parallel Planes ♦ Coplanar ♦ Parallel Lines Collinear ♦ Non-collinear	
Description	Points that lie on the same plane are ____________.	Points that lie on the same line are ________________.
Drawing		

Section 1 – Topic 2
Basics of Geometry – Part 2

Let's Practice!

1. Consider the figure below.



Select all the statements that apply to this figure.

- ☐ A, B, C, and D are coplanar in $\mathcal{R}$.
- ☐ A, B, C, and F are collinear.
- ☐ A, B, and N are collinear and coplanar in $\mathcal{R}$.
- ☐ B lies on $\overleftrightarrow{AN}$.
- ☐ A, C and F are coplanar in $\mathcal{R}$.
- ☐ C, D, E and F lie on $\mathcal{R}$.
- ☐ $AN + NB = AB$

Try It!

2. Plane Q contains $\overline{AB}$ and $\overrightarrow{BC}$, and it also intersects $\overleftrightarrow{PR}$ only at point M. Use the space below to sketch plane Q.

For points, lines, and planes, you need to know certain postulates.

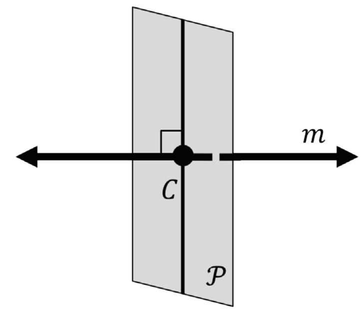
> **STUDY EDGE TIP**
> A ***postulate*** is a statement that we take to be automatically true. We do not need to prove that a postulate is true because it is something we assume to be true.

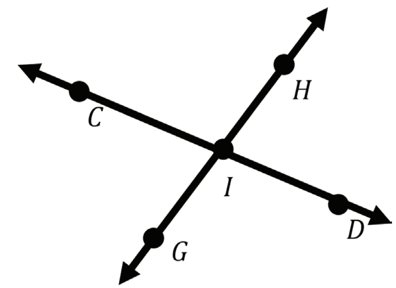
Let's examine the following postulates A through F.

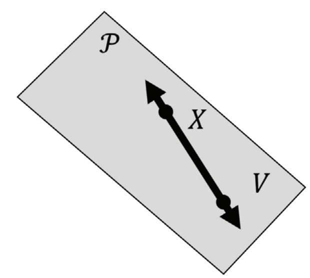
A. Through any two points there is exactly one line.
B. Through any three non-collinear points there is exactly one plane.
C. If two points lie in a plane, then the line containing those points will also lie in the plane.
D. If two lines intersect, they intersect in exactly one point.
E. If two planes intersect, they intersect in exactly one line.
F. Given a point on a plane, there is one and only one line perpendicular to the plane through that point.

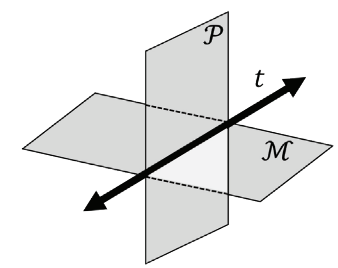
Let's Practice!

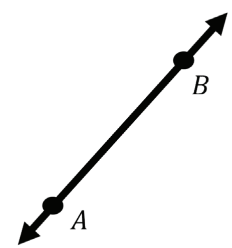
3. Use postulates A through F to match each visual representation with the correct postulate.

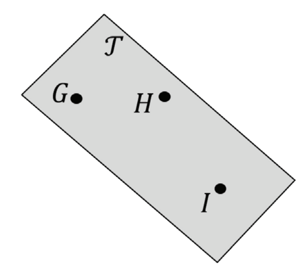






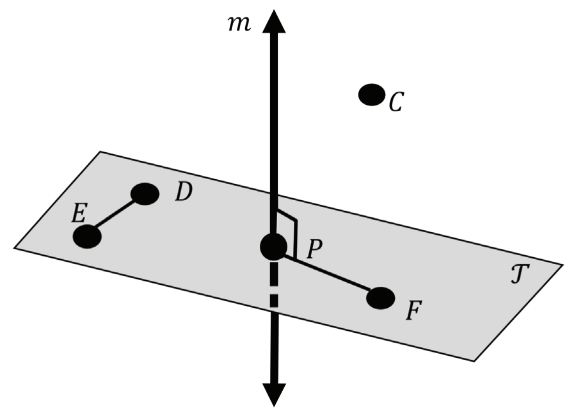






BEAT THE TEST!

1. Consider the following figure.

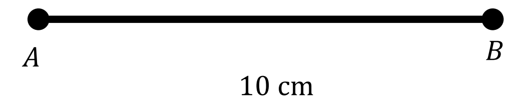


Select all the statements that apply to this figure.

- ☐ m is perpendicular through P to $\mathcal{T}$.
- ☐ C, D, E, and F are coplanar in $\mathcal{T}$.
- ☐ D, P, and F are collinear.
- ☐ $\overline{FC}$ is longer than $\overline{DF}$.
- ☐ $\overline{DE}$ and $\overline{PF}$ are coplanar in $\mathcal{T}$.

Section 1 – Topic 3
Midpoint and Distance in the Coordinate Plane – Part 1

Consider the line segment displayed below.



The length of $\overline{AB}$ is _____ centimeters.

➢ __________________ is an amount of space (in certain units) between two points on a __________________.

Draw a point halfway between point A and point B. Label this point C.

What is the length of $\overline{AC}$?

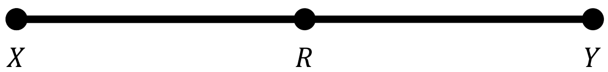
What is the length of $\overline{CB}$?

Point C is called the ______________ of $\overline{AB}$.

Why do you think it's called the midpoint?

Let's Practice!

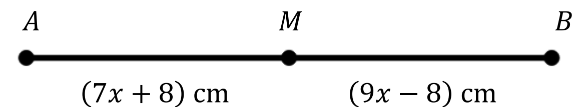
1. Consider $\overline{XY}$ with midpoint R.



a. What can be said of $\overline{XR}$ and $\overline{RY}$?

b. If $\overline{XR}$ is $(2x + 5)$ inches long and $\overline{RY}$ is 22 inches long, what is the value of x?

2. Consider the line segment below.



a. If $\overline{AB}$ is 128 centimeters long, what is x?

b. What is the length of $\overline{AM}$?

c. What is the length of $\overline{BM}$?

d. Is point M the midpoint of $\overline{AB}$? Justify your answer.

Try It!

3. Diego and Anya live 72 miles apart. They both meet at their favorite restaurant, which is $(16x - 3)$ miles from Diego's house and $(5x + 2)$ miles from Anya's house.

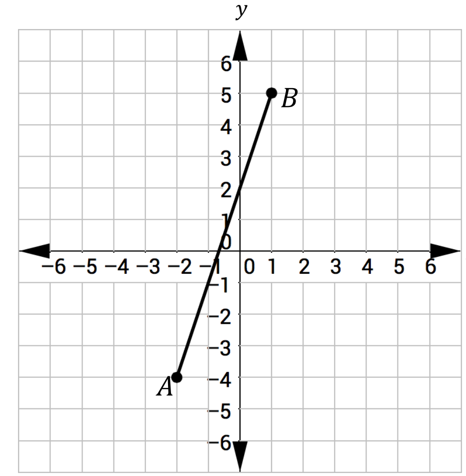
   Diego argues that in a straight line distance, the restaurant is halfway between his house and Anya's house. Is Diego right? Justify your reasoning.

Midpoint and ***distance*** can also be calculated on a coordinate plane.

The coordinate plane is a plane that is divided into ________ regions (called quadrants) by a horizontal line (______________) and a vertical line (______________).

- The location, or coordinates, of a point are given by an ordered pair, __________.

Consider the following graph.



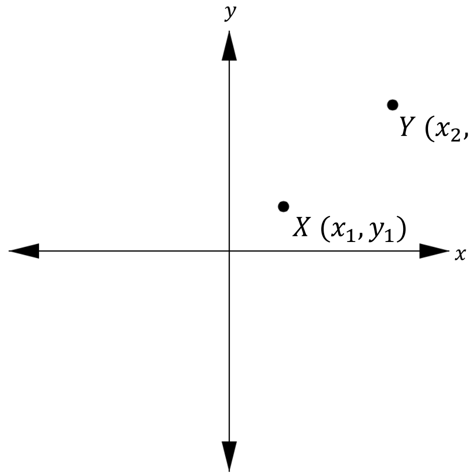
Name the ordered pair that represents point A.

Name the ordered pair that represents point B.

How can we find the midpoint of this line?

The midpoint of $\overline{AB}$ is (______ , ______).

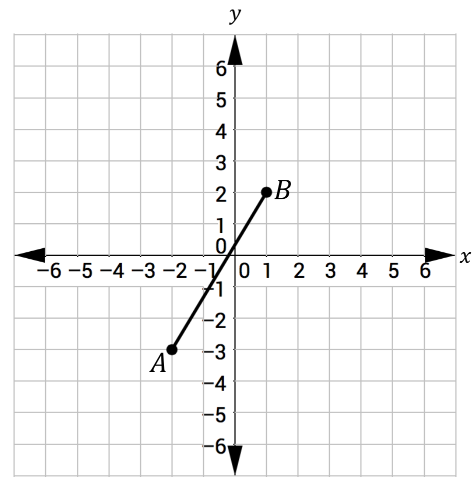
Let's consider points X and Y on the coordinate plane below.



Write a formula that can be used to find the midpoint of any two given points.

Let's Practice!

4. Consider the line segment in the graph below.



Find the midpoint of $\overline{AB}$.

5. M is the midpoint of $\overline{CD}$. C has coordinates $(-1, -1)$ and M has coordinates $(3, 5)$. Find the coordinates of D.

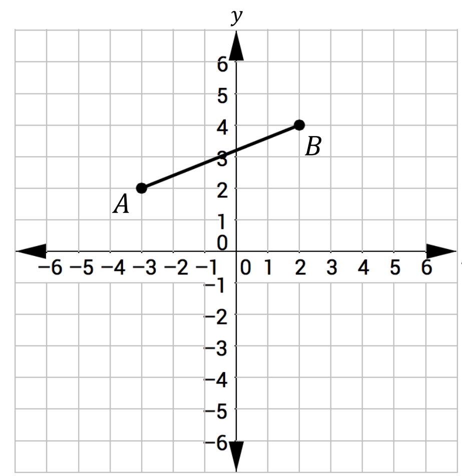
Try It!

6. P has coordinates $(2, 4)$. Q has coordinates $(-10, 12)$. Find the midpoint of $\overline{PQ}$.

7. *Café 103* is collinear with and equidistant from the *Metrics School* and the *Angles Lab*. The *Metrics School* is located at point $(4, 6)$ on a coordinate plane, and *Café 103* is at point $(7, 2)$. Find the coordinates of the *Angles Lab*.

Section 1 – Topic 4
Midpoint and Distance in the Coordinate Plane – Part 2

Consider $\overline{AB}$ below.



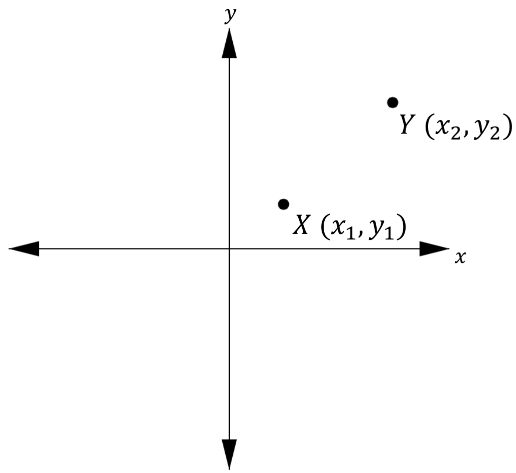
Draw point C on the above graph at $(2, 2)$.

What is the length of $\overline{AC}$?

What is the length of $\overline{BC}$?

Triangle ABC is a right triangle. Use the Pythagorean Theorem to find the length of $\overline{AB}$.

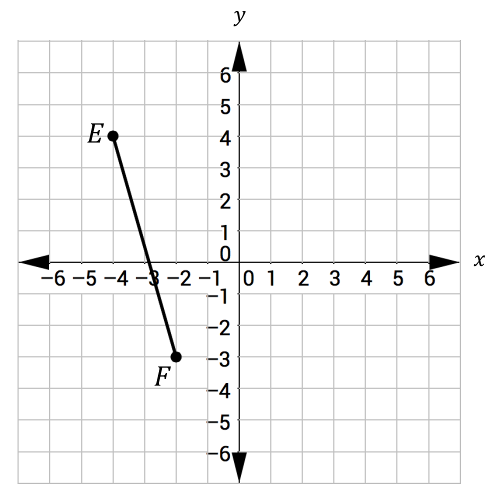
Let's consider the figure below.



Write a formula to determine the distance of any line segment.

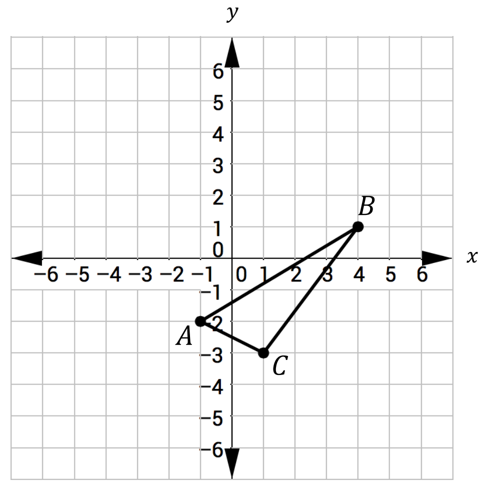
Let's Practice!

1. Find the length of $\overline{EF}$.



Try It!

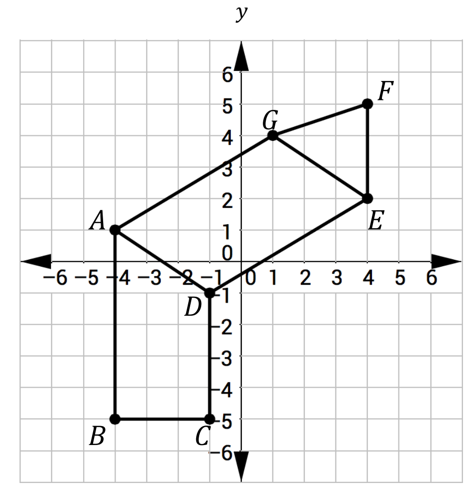
2. Consider triangle ABC graphed on the coordinate plane.



Find the perimeter of triangle ABC.

BEAT THE TEST!

1. Consider the following figure.



Which of the following statements are true? Select all that apply.

- ☐ The midpoint of $\overline{AG}$ has coordinates $\left(-\frac{3}{2}, \frac{5}{2}\right)$.
- ☐ $\overline{DE}$ is exactly 5 units long.
- ☐ $\overline{AD}$ is exactly 3 units long.
- ☐ $\overline{FG}$ is longer than $\overline{EF}$.
- ☐ The perimeter of quadrilateral $ABCD$ is about 16.6 units.
- ☐ The perimeter of quadrilateral $ADEG$ is about 18.8 units.
- ☐ The perimeter of triangle EFG is 9 units.

Section 1 – Topic 5
Partitioning a Line Segment – Part 1

What do you think it means to ***partition***?

How can a line segment be partitioned?

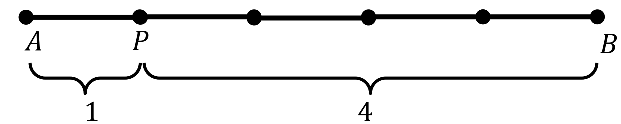
In the previous section, we worked with the__________, which partitions a segment into a $1:1$ ratio.

> **STUDY EDGE TIP**
>
> A ***ratio*** compares two numbers. A $1:1$ ratio is stated as, or can also be written as, "1 to 1".

Why does the midpoint partition a segment into a $1:1$ ratio?

How can $\overline{AB}$ be divided into a $1:3$ ratio?

Consider the following line segment where point P partitions the segment into a $1:4$ ratio.



How many sections are between points A and P?

How many sections are between points P and B?

How many sections are between points A and B?

In relation to $\overline{AB}$, how long is $\overline{AP}$?

In relation to $\overline{AB}$, how long is $\overline{PB}$?

Let's call these ratios, k, a fraction that compares a part to a whole.

If partitioning a directed line segment into two segments, when would your ratio k be the same for each segment? When would it differ?

The following formula can be used to find the coordinates of a given point that partitions a line segment into ratio k.

$$(x, y) = \left(x_1 + k(x_2 - x_1), y_1 + k(y_2 - y_1)\right)$$

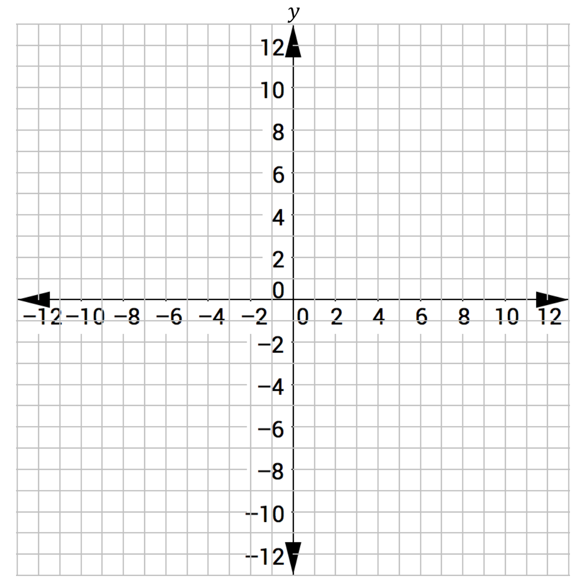
Let's Practice!

1. What is the value of k used to find the coordinates of a point that partitions a segment into a ratio of $4:3$?

2. Determine the value of k if partitioning a segment into a ratio of $1:5$.

Try It!

3. Point A has coordinates $(2, 4)$. Point B has coordinates $(10, 12)$. Find the coordinates of point P that partitions $\overline{AB}$ in the ratio $3:2$.



4. Points C, D, and E are collinear on $\overline{CE}$, and $CD:DE = \frac{3}{5}$. C is located at $(1, 8)$, D is located at $(4, 5)$, and E is located at (x, y). What are the values of x and y?

Consider $M, N,$ and $P,$ collinear points on $\overline{MP}$.

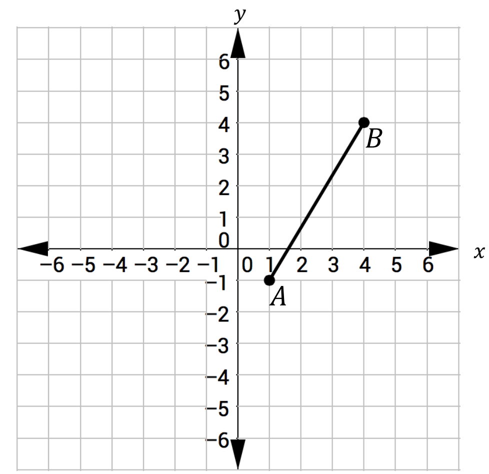
What is the difference between the ratio $MN: NP$ and the ratio of $MN: MP$?

What should you do if one of the parts of a ratio is actually the whole line instead of a ratio of two smaller parts or segments?

Let's Practice!

1. Points $P, Q,$ and R are collinear on $\overline{PR}$, and $PQ: PR = \frac{2}{3}$. P is located at the origin, Q is located at (x, y), and R is located at $(-12, 0)$. What are the values of x and y?

2. Consider the line segment in the graph below.



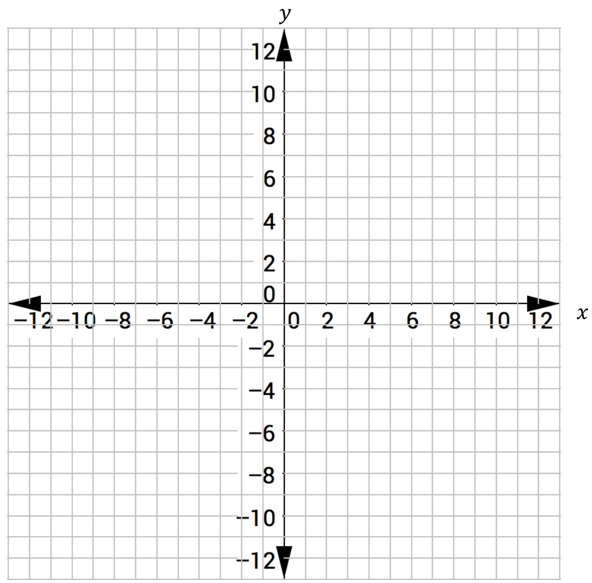
a. Find the coordinates of point P that partition $\overline{AB}$ in the ratio $1:4$.

b. Suppose $A, R,$ and B are collinear on $\overline{AB}$, and $AR: AB = \frac{1}{4}$. What are the coordinates of R?

Try It!

3. $\overline{JK}$ in the coordinate plane has endpoints with coordinates $(-4, 11)$ and $(8, -1)$.

   a. Graph $\overline{JK}$ and find two possible locations for point M, so M divides $\overline{JK}$ into two parts with lengths in a ratio of $1:3$.

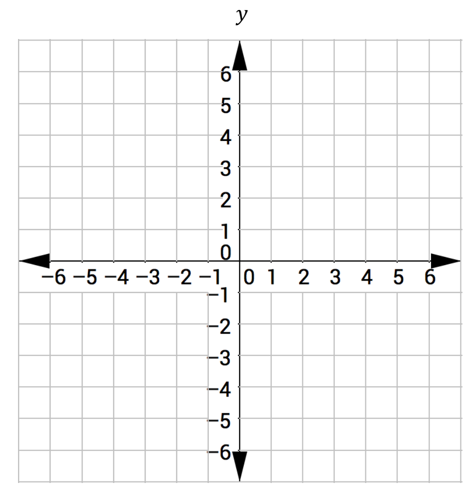


   b. Suppose $J, P,$ and K are collinear on $\overline{JK}$, and $JP: JK = \frac{1}{3}$. What are the coordinates of P?

BEAT THE TEST!

1. Consider the directed line segment from $A(-3, 1)$ to $Z(3, 4)$. Points $L, M,$ and N are on $\overline{AZ}$.

$L(-1, 2)$	$M\left(0, \frac{5}{2}\right)$	$N(1, 3)$



Complete the statements below.

The point _______ partitions $\overline{AZ}$ in a $1:1$ ratio.

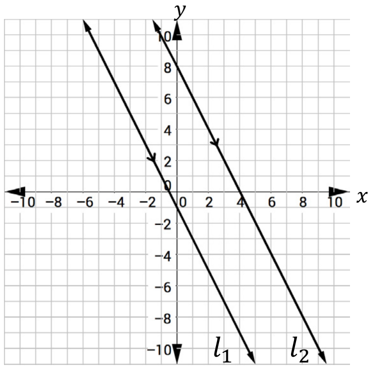
The point _______ partitions $\overline{AZ}$ in a $1:2$ ratio.

The point _______ partitions $\overline{AZ}$ in a $2:1$ ratio.

The ratio $AL: AZ =$ ___________.

Section 1 – Topic 7
Parallel and Perpendicular Lines – Part 1

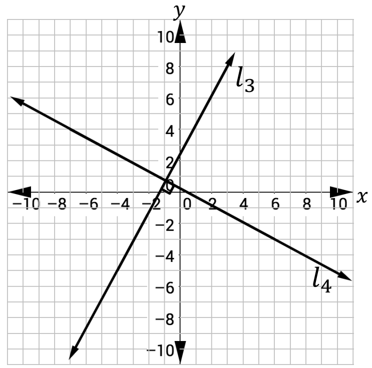
Graph A



These lines are ________________.

The symbol used to indicate ***parallel*** lines is ______.

Graph B



These lines are ________________.

The symbol used to indicate ***perpendicular*** lines is ______.

Choose two points on each graph and use the slope formula, $\frac{y_2-y_1}{x_2-x_1}$, to verify your answers.

What do you notice about the slopes of the parallel lines?

What do you notice about the slopes of the perpendicular lines?

What happens if the lines are are given in equation form instead of on a graph?

Let's Practice!

1. Indicate whether the lines are parallel, perpendicular, or neither. Justify your answer.

   a. $y = 2x$ and $6x = 3y + 5$

   b. $2x - 5y = 10$ and $10x + 4y = 20$

   c. $4x + 3y = 63$ and $12x - 9y = 27$

   d. $x = 4$ and $y = -2$

Try It!

2. Write the letter of the appropriate equation in the column beside each item.

A. $x = -5$	**B.** $y = -\frac{1}{4}x + 1$	**C.** $3x - 5y = -30$	**D.** $x - 2y = -2$

	A line parallel to $y = \frac{3}{5}x + 2$
	A line perpendicular to $y = 4$
	A line perpendicular to $4x + 2y = 12$
	A line parallel to $2x + 8y = 7$

Section 1 – Topic 8
Parallel and Perpendicular Lines – Part 2

Let's Practice!

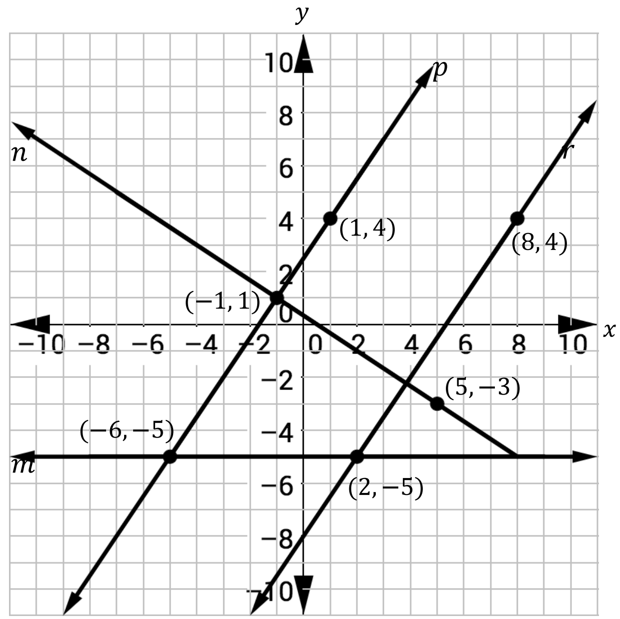
1. Write the equation of the line passing through $(-1, 4)$ and perpendicular to $x + 2y = 11$.

Try It!

2. Suppose the equation for line A is given by $y = -\frac{3}{4}x - 2$. If line A and line B are perpendicular and the point $(-4, 1)$ lies on line B, then write an equation for line B.

3. Consider the graph below.

a. Name a set of lines that are parallel. Justify your answer.



b. Name a set of lines that are perpendicular. Justify your answer.

BEAT THE TEST!

1. The equation for line A is given by $y = -\frac{3}{4}x - 2$. Suppose line A is parallel to line B, and line T is perpendicular to line A. Point $(0, 5)$ lies on both line B and line T.

Part A: Write an equation for line B.

Part B: Write an equation for line T.

2. A parallelogram is a four-sided figure whose opposite sides are parallel and equal in length. Alex is drawing parallelogram $ABCD$ on a coordinate plane. The parallelogram has the coordinates $A(4, 2)$, $B(0, -2)$, and $D(8, -1)$.

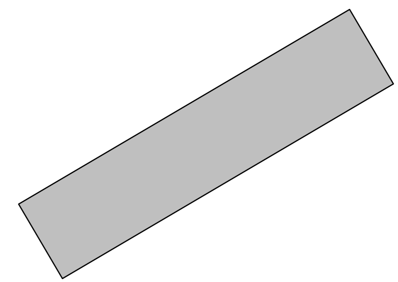
   Which of the following coordinates should Alex use for point C?

   Ⓐ $(6, -3)$
   Ⓑ $(4, -5)$
   Ⓒ $(10, -3)$
   Ⓓ $(4, 3)$

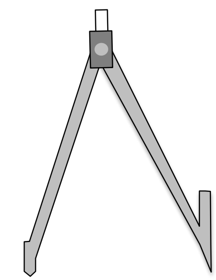
Section 1 – Topic 9
Basic Constructions – Part 1

What do you think the term ***geometric constructions*** implies?

The following tools are used in geometric constructions.



Straightedge



Compass

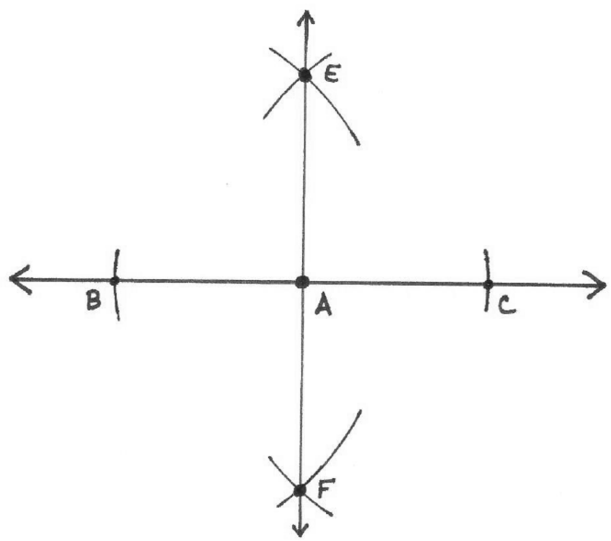
Which of the tools can help you draw a line segment?

Which of the tools can help you draw a circle?

Constructions also involve labeling points where lines or arcs intersect.

An ***arc*** is a section of the ________________ of a circle, or any curve.

Consider the following figure where $\overline{EF}$ was constructed perpendicular to $\overline{BC}$.

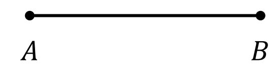


Label each part of the figure that shows evidence of the use of a straightedge with the letters SE.

Label each part of the figure that shows evidence of the use of a compass with the letter C.

Let's Practice!

1. Follow the instructions below for copying $\overline{AB}$.



Step 1. Mark a point M that will be one endpoint of the new line segment.

Step 2. Set the point of the compass on point A of the line segment to be copied.

Step 3. Adjust the width of the compass to point B. The width of the compass is now equal to the length of $\overline{AB}$.

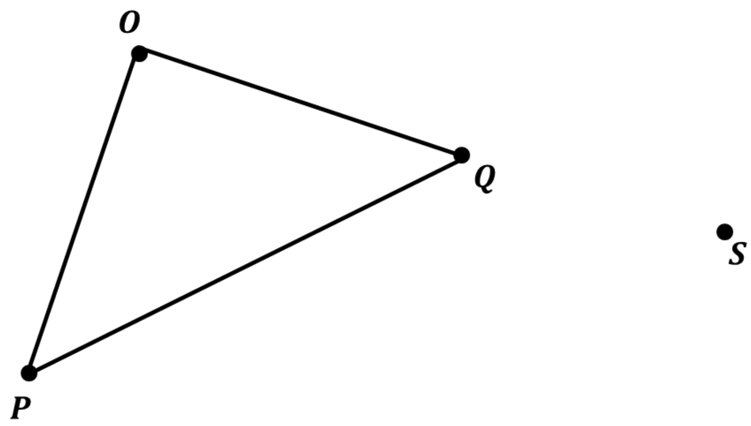
Step 4. Without changing the width of the compass, place the compass point on M. Keeping the same compass width, draw an arc approximately where the other endpoint will be created.

Step 5. Pick a point N on the arc that will be the other endpoint of the new line segment.

Step 6. Use the straightedge to draw a line segment from M to N.

Try It!

2. Construct $\overline{RS}$, a copy of $\overline{PQ}$. Write down the steps you followed for your construction.

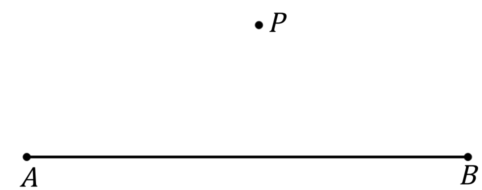


Section 1 – Topic 10
Basic Constructions – Part 2

In the constructions of line segments, we can do more than just copy segments. We can construct lines that are parallel or perpendicular to a given line or line segment.

Let's Practice!

1. Following the steps below, construct a line through P that is perpendicular to the given line segment $\overline{AB}$.



Step 1. Place the point of the compass on point P, and draw an arc that crosses $\overline{AB}$ twice. Label the two points of intersection C and D.

Step 2. Place the compass on point C and make an arc above $\overline{AB}$ that goes through P, and a similar arc below $\overline{AB}$.

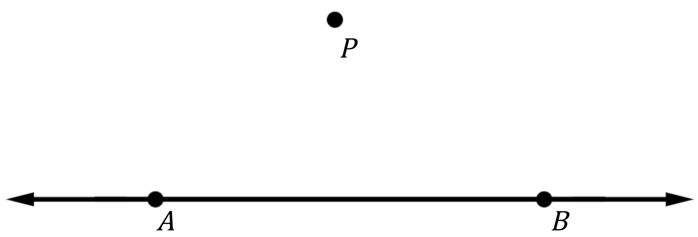
Step 3. Keeping the compass at the same width as in step 2, place the compass on point D, and repeat step 2.

Step 4. Draw a point where the arcs drawn in Step 2 and Step 3 intersect. Label that point R.

Step 5. Draw a line segment through points P and R, making $\overline{PR}$ perpendicular to $\overline{AB}$.

Try It!

2. Following the steps below, construct a line segment through P that is parallel to the given line segment $\overline{AB}$.



Step 1. Draw line r through point P that intersects $\overline{AB}$.

Step 2. Label the intersection of line r and $\overline{AB}$ point Q.

Step 3. Place your compass on point Q, set the width of the compass to point P, and construct an arc that intersects $\overline{AB}$. Label that point of intersection point C.

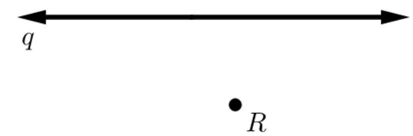
Step 4. Using the same setting, place the compass on point P, and construct an arc above $\overline{AB}$.

Step 5. Using the same setting, place the compass on point C, and construct an arc above $\overline{AB}$ that intersects the arc drawn in step 4. Label this intersection point D.

Step 6. Draw $\overline{PD}$.

BEAT THE TEST!

1. Consider the figure below.

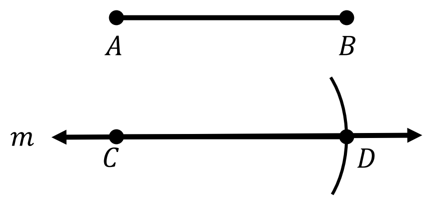


Celine attempted to construct a line through point R that is perpendicular to line q. In her first step, she placed the point of the compass on point R, and drew an arc that crossed line q twice. She labeled the two points of intersection A and B. Then, Celine placed the compass on point A and made an arc above line q that went through R; repeating the same process from point B. Finally, she drew a line from R crossing line q.

Part A: Celine's teacher pointed out that the construction is missing a very crucial step. Determine what the missing step is and why it is so crucial for this construction.

Part B: Another student in the classroom, Lori, suggested that Celine can construct a line parallel to q through R by drawing a horizontal line. The teacher also pointed out that Lori's claim was incorrect. Explain why.

2. Consider the diagram shown below.

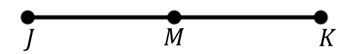


Which of the following statements best describes the construction in the diagram?

Ⓐ $\overline{AB} \parallel \overline{CD}$.
Ⓑ $\overline{AB} \cong \overline{CD}$.
Ⓒ C is the midpoint of m.
Ⓓ D is the midpoint of m.

Section 1 – Topic 11
Constructing Perpendicular Bisectors

Consider $\overline{JK}$ with midpoint M.



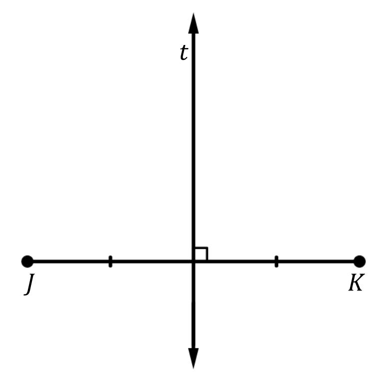
Draw a line through point M and label it r.

Line r is the segment ______________ of $\overline{JK}$.

A ***bisector*** divides lines, angles, and shapes into two equal parts.

A ***segment bisector*** is a line, segment, or ray that passes through another segment and cuts it into two congruent parts.

Consider $\overline{JK}$ and line t.

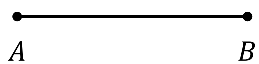


Line t is the ***perpendicular bisector*** of $\overline{JK}$. Make a conjecture as to why line t is called the perpendicular bisector of $\overline{JK}$.

> **STUDY EDGE TIP**
>
> When you make a ***conjecture***, you make an educated guess based on what you know or observe.

Let's Practice!

1. Follow the instructions below for constructing the perpendicular bisector of $\overline{AB}$.



Step 1. Start with $\overline{AB}$.

Step 2. Place your compass point on A, and stretch the compass more than halfway to point B.

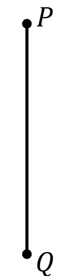
Step 3. Draw large arcs both above and below the midpoint of $\overline{AB}$.

Step 4. Without changing the width of the compass, place the compass point on B. Draw two arcs so that they intersect the arcs you drew in step 3.

Step 5. With your straightedge, connect the two points of where the arcs intersect.

Try It!

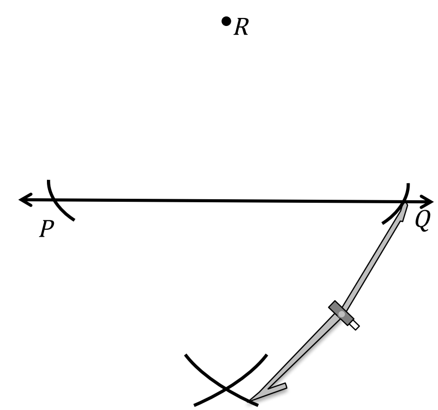
2. Consider $\overline{PQ}$.



   a. Construct the perpendicular bisector of $\overline{PQ}$ shown above.

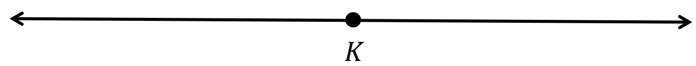
   b. Consider $\overline{AB}$, which is parallel to $\overline{PQ}$. Is the perpendicular bisector of $\overline{PQ}$ also the perpendicular bisector of $\overline{AB}$? Justify your answer.

3. Consider the diagram below. What do you need to check to validate the construction of a perpendicular bisector?

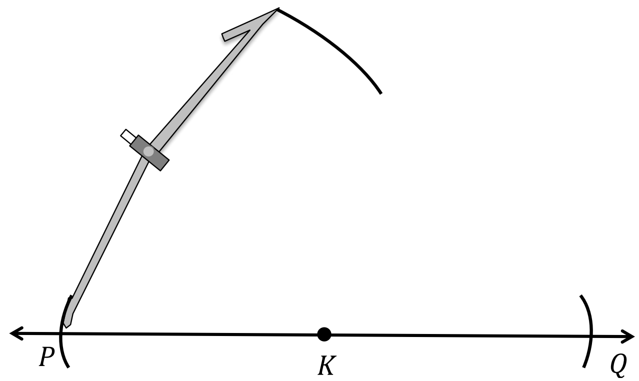


BEAT THE TEST!

1. Fernando was constructing a perpendicular line at a point K on the line below.



The figure below represents a depiction of the partial construction Fernando made.

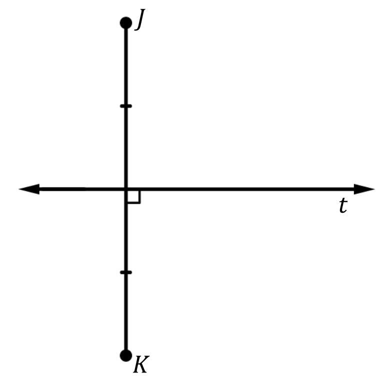


What should the next step be?

Ⓐ Increase the compass to almost double the width to create another line.
Ⓑ From P, draw a line that crosses the arc above K.
Ⓒ Without changing the width of the compass, repeat the drawing process from point Q, making the two arcs cross each other at a new point called R.
Ⓓ Close the compass and use the straight edge to draw a line from the midpoint of the arc to point K.

Section 1 – Topic 12
Proving the Perpendicular Bisector Theorem Using Constructions

Consider $\overline{JK}$ and line t again.



What is the intersection between line t and $\overline{JK}$ called?

Let's Practice!

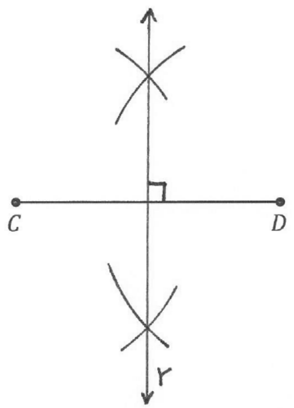
1. Using the above diagram where line t is the perpendicular bisector of $\overline{JK}$, let M be the point where line t and $\overline{JK}$ intersect, and let P be any point on line t.

   a. Suppose that P lies on $\overline{JK}$. What conclusions can you draw about the relationship between $\overline{JP}$ and $\overline{KP}$? Explain.

   b. Suppose that P does not lie on $\overline{JK}$. What conclusions can you draw now about the relationship between $\overline{JP}$ and $\overline{KP}$? Explain.

Try It!

2. Suppose that C and D are two distinct points in the plane and a student drew line r to be the perpendicular bisector of $\overline{CD}$ as shown in the diagram below.



a. If G is a point on r, show that G is equidistant from C and D.

b. Conversely, use a counterexample to show that if Q is a point which is equidistant from C and D, then Q is a point on r.

c. Determine if the following statement is true.

The perpendicular bisector of $\overline{CD}$ is exactly the set of points which are equidistant from C and D.

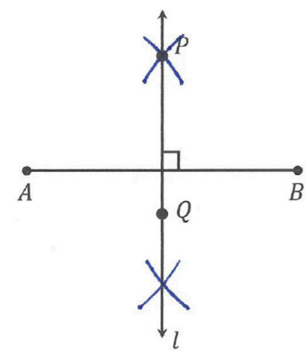
TAKE NOTE! *Postulates & Theorems*

Perpendicular Bisector Theorem

If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment. The **converse** of this theorem is also true.

BEAT THE TEST!

1. Consider the following diagram. A and B are two distinct points in the plane and line l is the perpendicular bisector of $\overline{AB}$.



Yozef and Teresa were debating whether P and Q are both on l. Circle the correct response. Justify your answer.

Yozef's work	Teresa's work
I measured the distance between A and P, and B and P, and the width of the compass was the same for both. Same happened between A and Q, and B and Q. Therefore, P is equidistant from A and B, and Q is equidistant from A and B. P and Q are both on line l justified by of the Converse of the Perpendicular Bisector Theorem.	*P is on the intersection of the arcs drawn in the construction process above segment AB, so the width of the compass is the same from A to P and from B to P. However, Q is not on the intersection of the arcs drawn below the segment, so it is not equidistant from A and B. In conclusion, P is on the perpendicular bisector l but Q is not on it.*

Test Yourself! Practice Tool

Great job! You have reached the end of this section. Now it's time to try the "Test Yourself! Practice Tool," where you can practice all the skills and concepts you learned in this section. Log in to Math Nation and try out the "Test Yourself! Practice Tool" so you can see how well you know these topics!