

Unit 8.1, Lesson 2: Practice Problems

Name _____

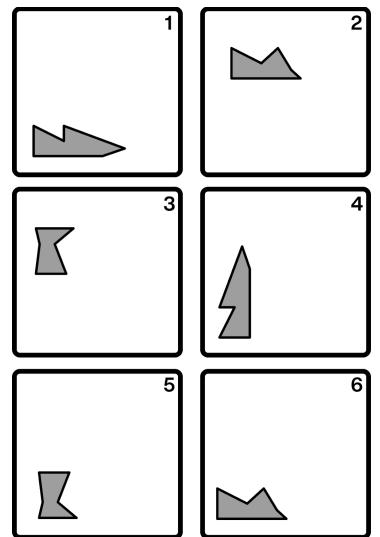
Each of the six cards shows a shape.

- 1.1 Which two cards represent a rotation?

- Card 1
- Card 2
- Card 3
- Card 4
- Card 5
- Card 6

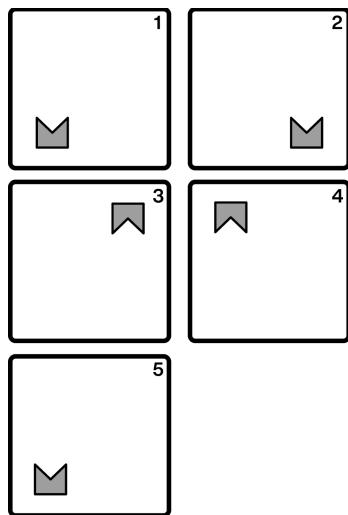
- 1.2 Which two cards represent a reflection?

- Card 1
- Card 2
- Card 3
- Card 4
- Card 5
- Card 6



2. These five frames show a shape's different positions.

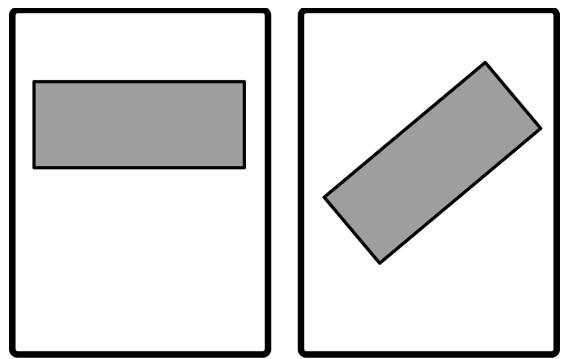
Describe how the shape moves to get from its position in each frame to the next.



3. The rectangle seen in Frame 1 is rotated to a new position in Frame 2.

Select all the ways the rectangle could have been rotated to get from Frame 1 to Frame 2.

- 40° clockwise
- 40° counterclockwise
- 90° clockwise
- 90° counterclockwise
- 140° clockwise
- 140° counterclockwise



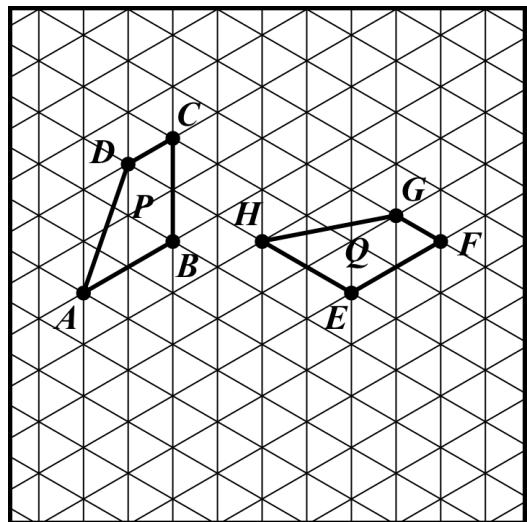
Frame 1

Frame 2

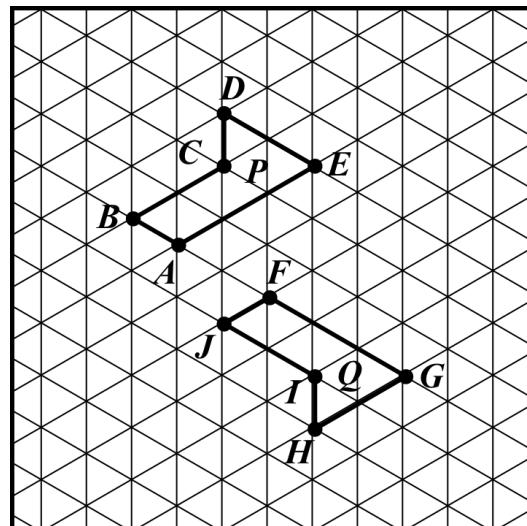
Unit 8.1, Lesson 3: Practice Problems

Name _____

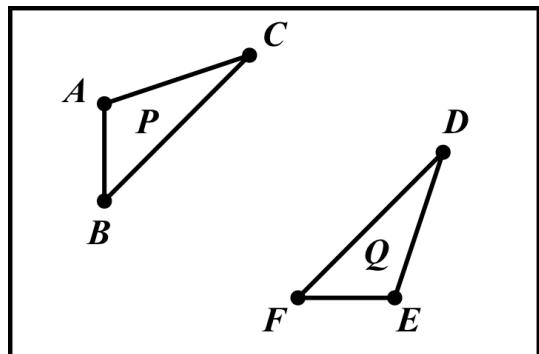
- 1.1 Describe a sequence of translations, rotations, and reflections that takes polygon P to polygon Q .



- 1.2 Describe a sequence of translations, rotations, and reflections that takes polygon P to polygon Q .



- 1.3 Describe a sequence of translations, rotations, and reflections that takes polygon P to polygon Q .

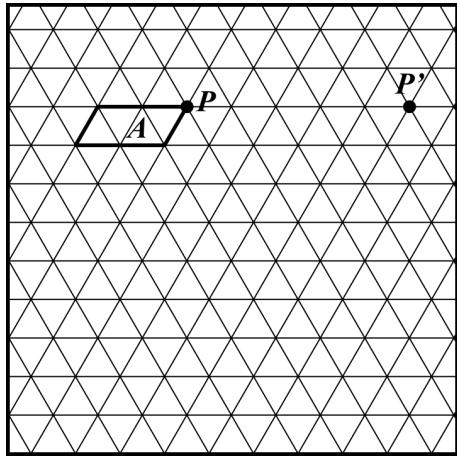


Unit 8.1, Lesson 4: Practice Problems

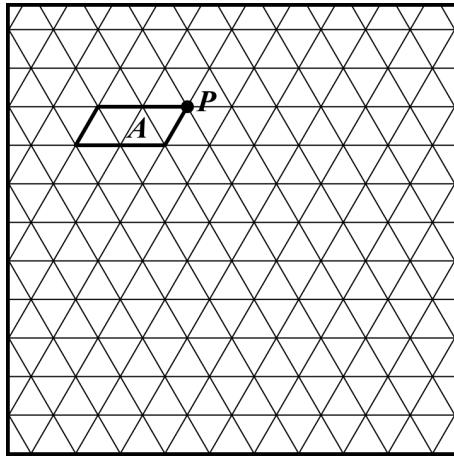
Name _____

Draw the following information.

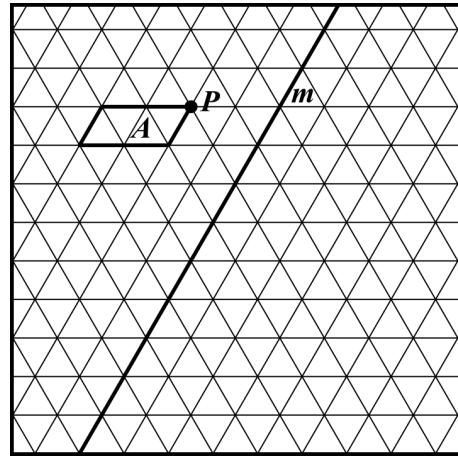
- 1.1 A translation of figure A that takes P to P' .



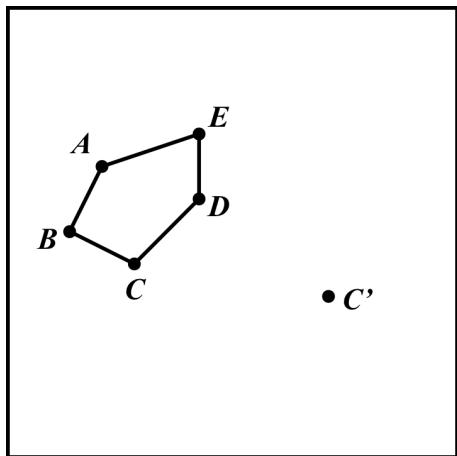
- 1.2 A 60° counterclockwise rotation of figure A using center P .



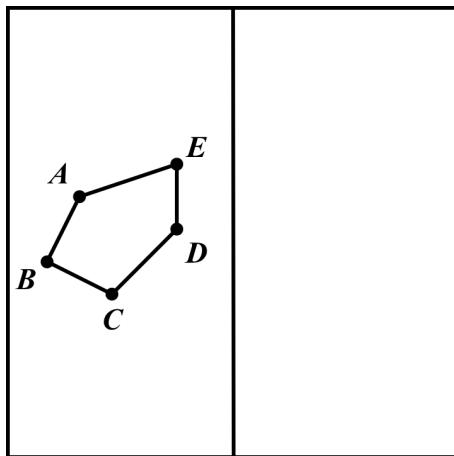
- 1.3 A reflection of figure A across line m .



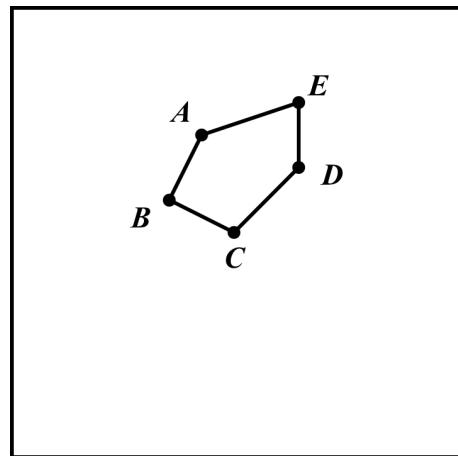
- 2.1 Translate $ABCDE$ so that C moves to C'' .



- 2.2 Reflect $ABCDE$ using line of reflection m .



- 2.3 Rotate $ABCDE$ 180° clockwise around C .



Unit 8.1, Lesson 5: Practice Problems

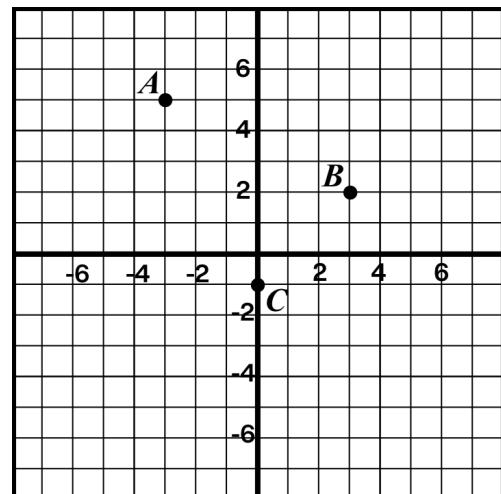
Name _____

- 1.1 Plot the location of A , B , and C after a translation to the right by 4 units and up 1 unit.

Label the points A' , B' , and C' .

Then enter the coordinates into the table.

Point	Coordinates
A'	
B'	
C'	

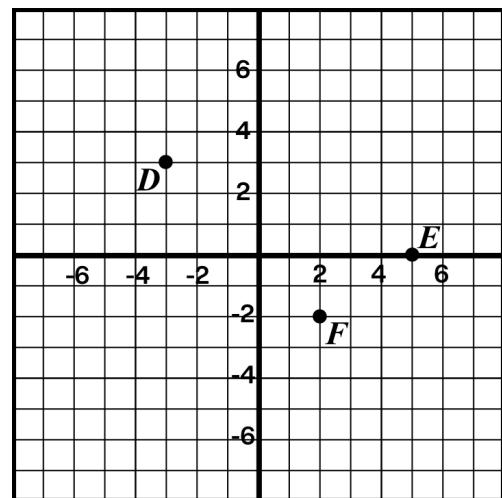


- 1.2 Plot the location of D , E , and F after a reflection over the y -axis.

Label the points D' , E' , and F' .

Then enter the coordinates into the table.

Point	Coordinates
D'	
E'	
F'	

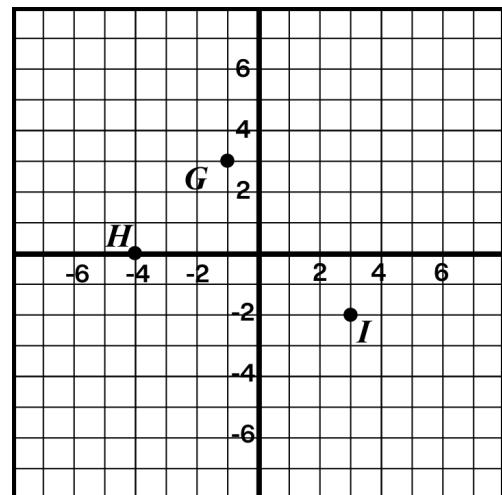


- 1.3 Plot the location of G , H , and I after a 90° clockwise rotation around $0, 0$.

Label the points G' , H' , and I' .

Then enter coordinates into the table.

Point	Coordinates
G'	
H'	
I'	

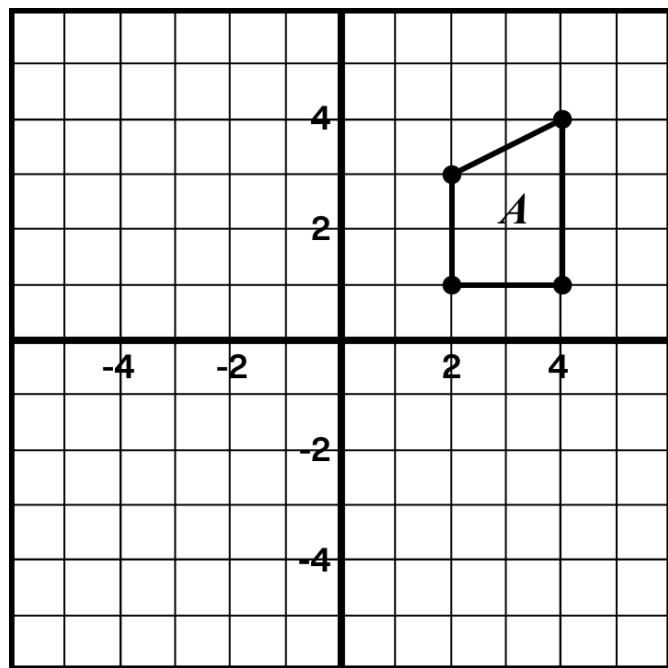


Unit 8.1, Lesson 6: Practice Problems

Name _____

1. Here is trapezoid A in the coordinate plane.

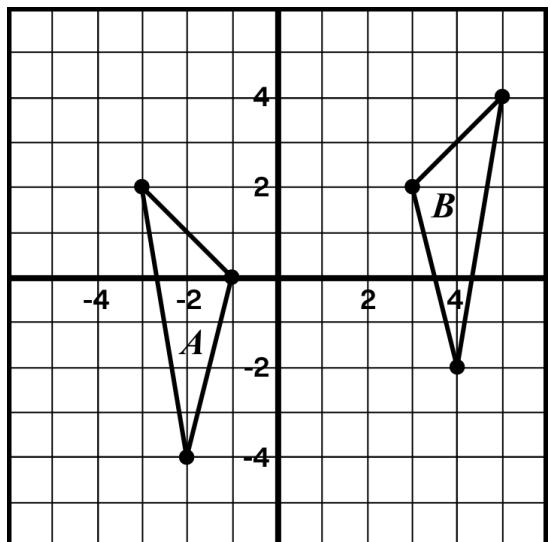
- Reflect A over the y -axis.
Label the image B .
- Reflect B over the x -axis.
Label the image C .
- Reflect C over the x -axis.
Label the image D .



2. The point $(-4, 1)$ is rotated 180° counterclockwise using center $(-3, 0)$. What are the coordinates of the image? Select one.

- A. $(-5, 2)$
- B. $(-4, 1)$
- C. $(-2, -1)$
- D. $(4, -1)$

3. Describe a sequence of transformations for which triangle B is the image of triangle A .

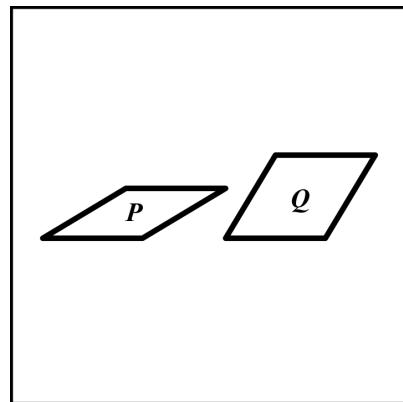


Unit 8.1, Lesson 8: Practice Problems

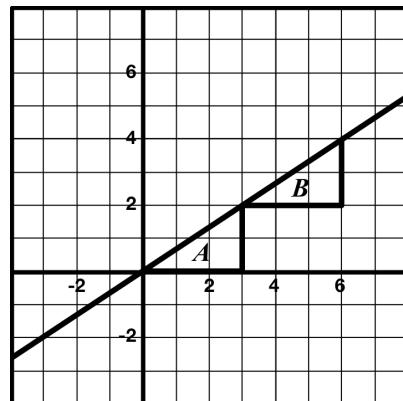
Name _____

1. Is there a rigid transformation taking rhombus P to rhombus Q ?

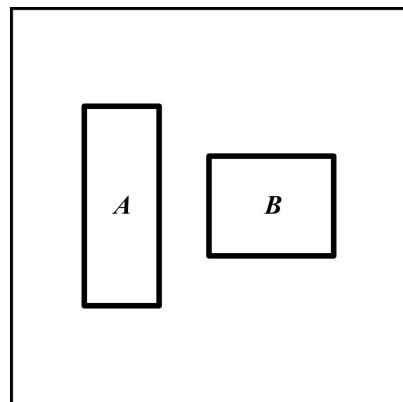
Explain your thinking.



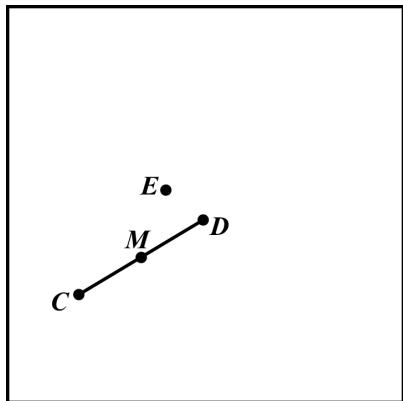
2. Describe a rigid transformation that takes triangle A to triangle B .



3. Is there a rigid transformation taking rectangle A to rectangle B ?



- 4.1 Draw a rotation of segment CD 180° around point D .

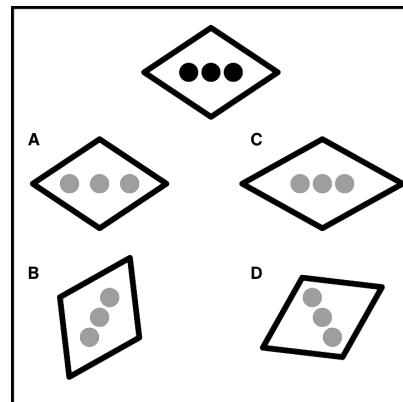


Unit 8.1, Lesson 9: Practice Problems

Name _____

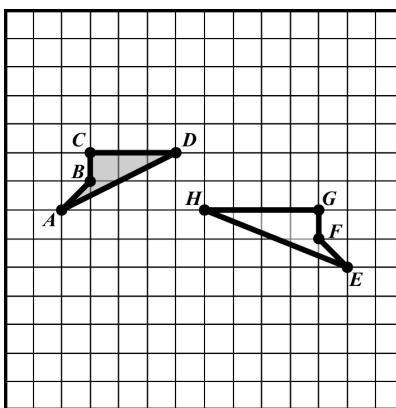
1. Select all of the figures that appear congruent to the top figure.

- A
- B
- C
- D



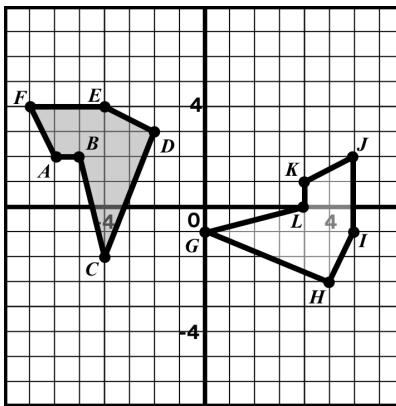
- 2.1 Are these two shapes congruent?

Explain your thinking.



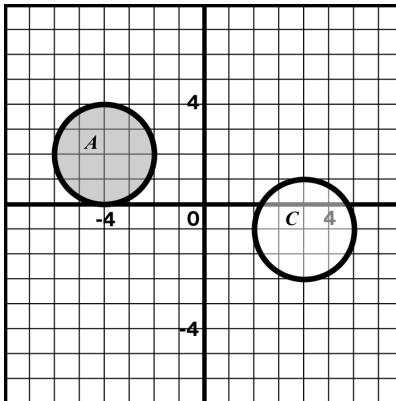
- 2.2 Are these two shapes congruent?

Explain your thinking.



- 2.3 Are these two shapes congruent?

Explain your thinking.



Warm-Up

Determine the value of the variable in each equation.

$$x + 40 = 180$$

$$x + 40 = 90$$

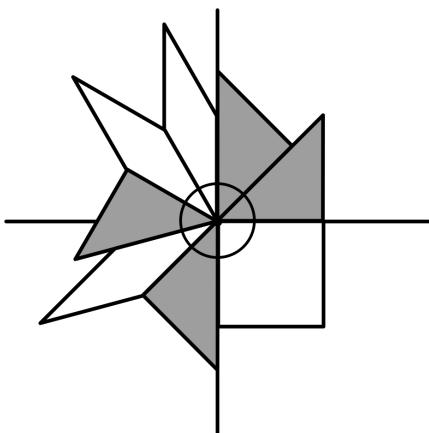
$$2x + 40 = 180$$

$$2(x + 40) = 180$$

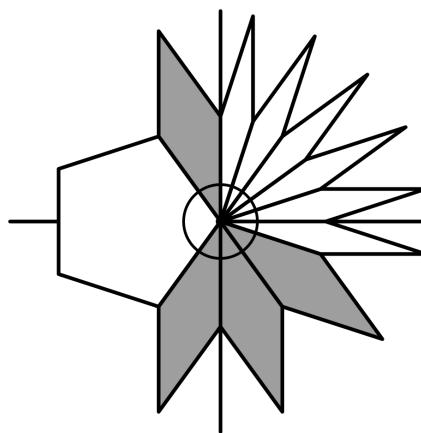
Practice

For each diagram, determine as many angle measures as you can.

1.1



1.2



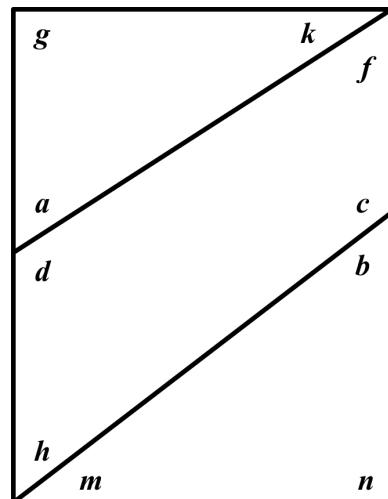
Here is a rectangle.

2.1 List a pair of angles that are **complementary**.

2.2 Label a pair of angles that are **supplementary**.

2.3 If angle h is 59° , determine the value of one other angle. Label it on the diagram.

2.4 If angle a is 59° , determine the value of one other angle. Label it on the diagram.



Warm-Up

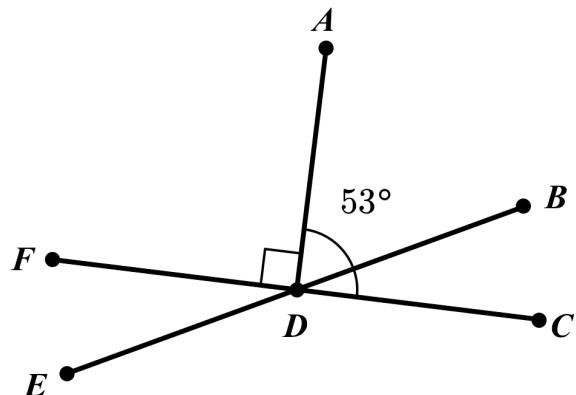
Select **all** of the equations that are equivalent to $3x + 45 = 180$.

- $3(x + 45) = 180$ $3(x + 15) = 180$ $3(x + 15) = 60$ $x + 15 = 60$ $3x = 135$

Practice

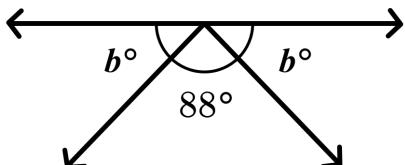
- 1.1 Determine the measure of each angle.

Angle	Measure (degrees)
ADB	53
BDC	
CDE	
FDE	
FDA	



- 1.2 Identify one pair of vertical angles in the diagram.
Explain how you know they are vertical angles.

- 2.1 Which equation represents the relationship between the angles in the figure?



- A. $88 + b = 90$ B. $88 + b = 180$
C. $2b + 88 = 90$ D. $2b + 88 = 180$

- 2.2 Dakota says that the angles marked b are vertical angles. Eva disagrees.

Who do you agree with?

Explain your reasoning.

Unit 8.1, Lesson 10: Practice Problems

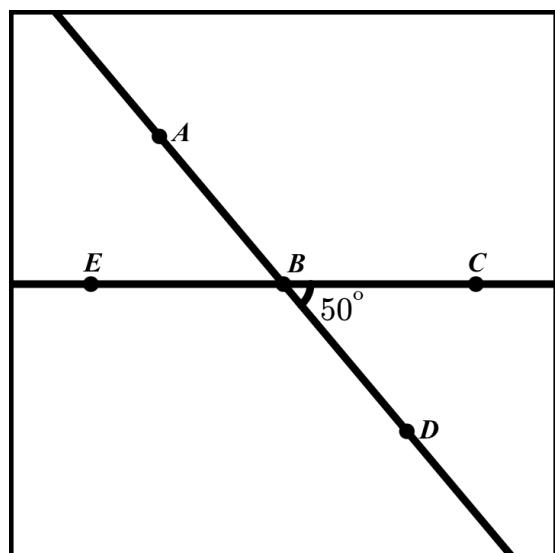
Name _____

1. Find the measure of each angle in the diagram.

Enter your answers in the table.

Angle	Measure (degrees)
DBC	
ABC	
EBD	
ABE	

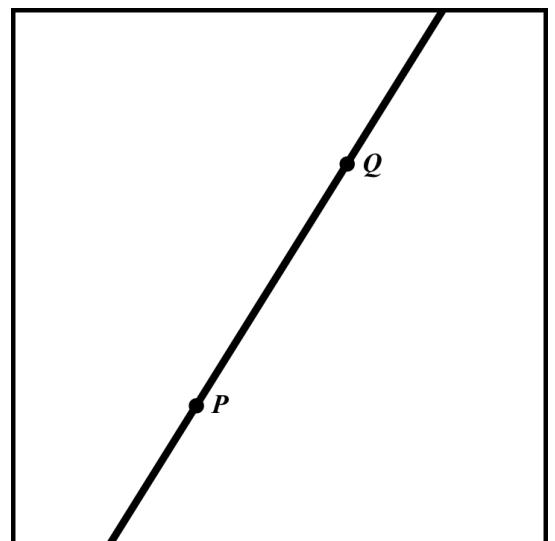
Explain your thinking.



2. Points P and Q are plotted on a line.

- Plot point R so that a 180° rotation with center R sends P to Q and Q to P .
- Is there more than one point R that works?

Explain your thinking.



Unit 8.1, Lesson 11: Practice Problems

Name _____

1. If ABC is an **isosceles** triangle and the measure of angle $A = 40^\circ$, what are possible measures for angles B and C ?

Angle	Measure (degrees)
A	40
B	
C	

If ABC is a **right** triangle and the measure of angle $A = 40^\circ$, what are possible measures for angles B and C ?

Angle	Measure (degrees)
A	40
B	
C	

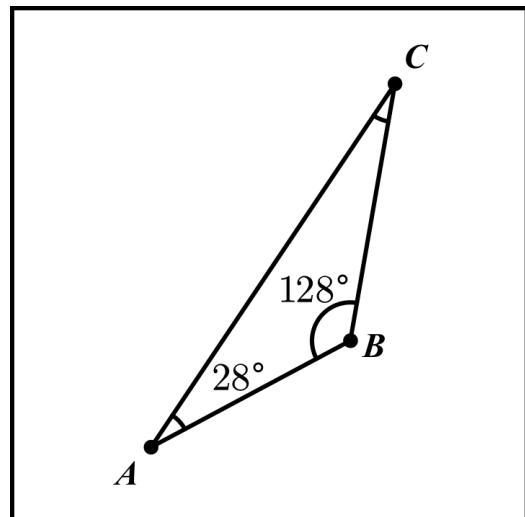
2. Select all of the following sets of angles that are possible for a triangle.

- $60^\circ, 60^\circ, 60^\circ$
- $90^\circ, 90^\circ, 45^\circ$
- $30^\circ, 40^\circ, 50^\circ$
- $90^\circ, 45^\circ, 45^\circ$
- $120^\circ, 30^\circ, 30^\circ$

3. Angle A in triangle ABC is obtuse. Can angle B or angle C be obtuse?

Explain your thinking.

- 4.1 Determine the measure of the missing angle.



Unit 8.1, Lesson 12: Practice Problems

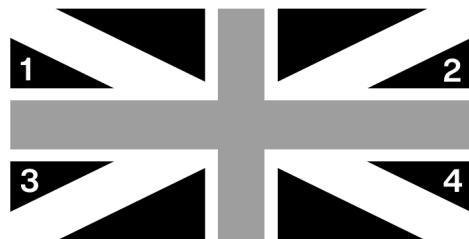
Name _____

1. Is there such thing as a triangle with two right angles?

Explain your thinking.

- 2.1 Here is a picture of an older version of the flag of Great Britain.

There is a rigid transformation that takes Triangle 1 to Triangle 2, another that takes Triangle 1 to Triangle 3, and another that takes Triangle 1 to Triangle 4.



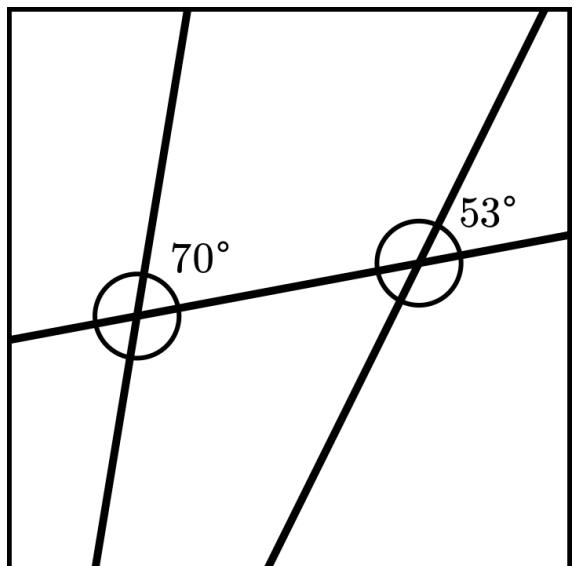
Measure the side lengths of Triangles 1 and 2. What do you notice?

- 2.2 How could you determine the side lengths of Triangle 3 without measuring it?

- 2.3 Do all eight triangles in the flag have the same area? Explain your thinking.

3. The diagram shows three lines with some missing angle measures.

Fill in the missing angle measures.





Science Mom Lesson 13

Unit 7.7, Lesson 5: Practice Problems

Name _____

Warm-Up

Determine the value of each expression.

$5 - 8 =$

$5 + (-8) =$

$(-5) + 8 =$

$(-5) + (-8) =$

Practice

- 1.1 Select **all** the sets of side lengths that will make a triangle.

- 3 units, 4 units, 8 units
- 7 units, 6 units, 12 units
- 5 units, 13 units, 11 units
- 12 units, 6 units, 4 units
- 4 units, 6 units, 10 units

- 1.2 For one of the sets of side lengths you did not select, explain how you know they **will not** make a triangle.

2. One side of a triangle is 5.5 inches long. Another is 10.5 inches long.
Which of the following could be the length of the third side?

- 3 inches 5 inches 7 inches 10 inches 12 inches 20 inches

A triangle has one side that is 4 centimeters long and one that is 9 centimeters long. The third side is a whole number of centimeters.

- 3.1 What is the shortest possible third side?

- 3.2 What is the longest possible third side?

Warm-Up

Calculate each difference.

$4 - 9 =$

$(-4) - 9 =$

$4 - (-9) =$

$(-4) - (-9) =$

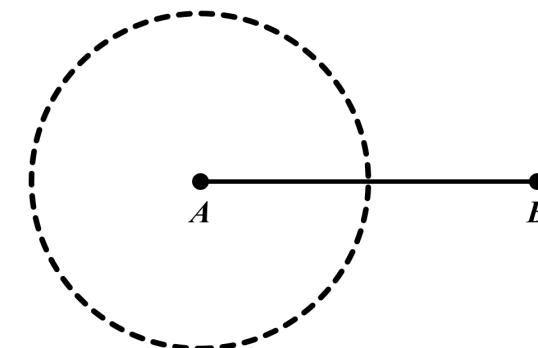
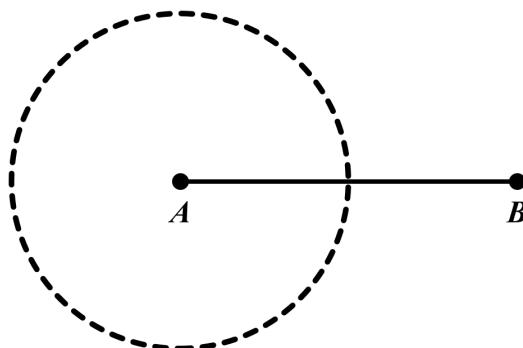
Practice

A triangle has one side that is 6 units long and another side that is 3 units long.

- 1.1 Which of the following could be the length of the third side?

2 units 3 units 4 units 6 units 8 units 10 units

- 1.2 In the diagrams, segment AB is 6 units and the radius of circle A is 3 units. Draw two different triangles where one side is 6 units long and another side is 3 units long.



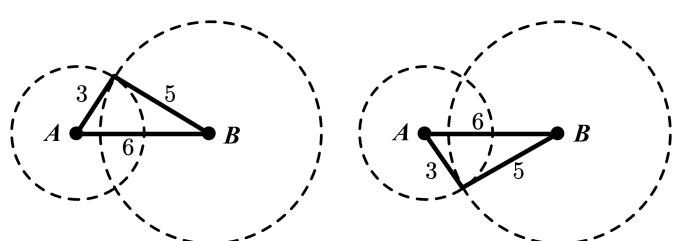
2. Faith drew two triangles with side lengths of 3 units, 5 units, and 6 units.

Are the triangles identical?

Triangle 1

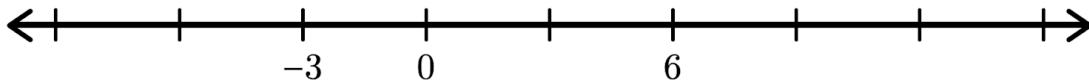
Triangle 2

Explain your reasoning.



Warm-Up

Complete the number line. The markings on the number line are equally spaced.

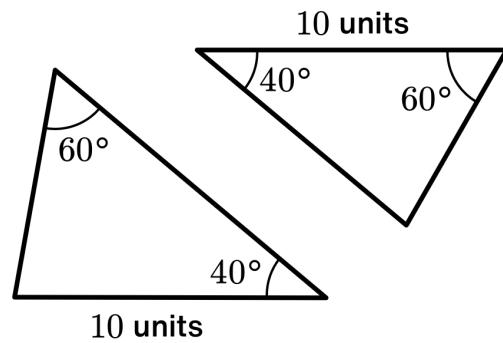


Put a star over the point on the number line that represents the value of $(-3)(-2)$.

Practice

- Are these two triangles identical?

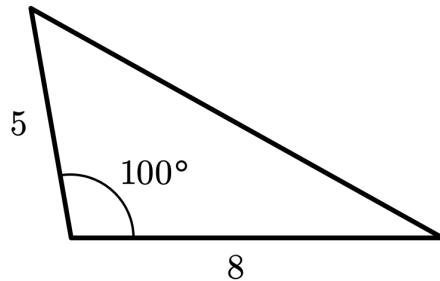
Explain your thinking.



- This triangle has a side length of 5 units, a side length of 8 units, and a 100° angle.

Is this the only triangle that can be created with these three measurements?

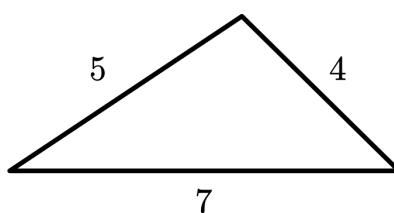
Explain or show your reasoning.



- This triangle has side lengths of 7 cm, 4 cm, and 5 cm.

Is this the only triangle that can be created with these three measurements?

Explain or show your reasoning.



Warm-Up

Calculate each value.

$$\frac{24}{-4} =$$

$$\frac{-24}{-4} =$$

$$\frac{-24}{4} =$$

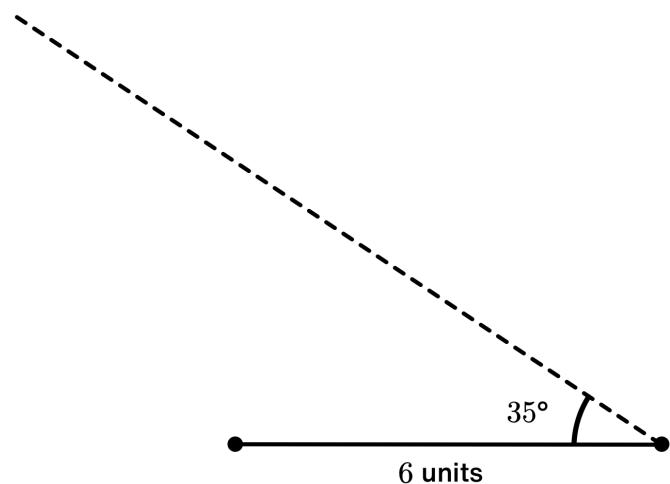
$$\frac{-24-4}{-4} =$$

Practice

1. A triangle has a 90° angle, a 35° angle, and a side that is 6 units long.

The 6-unit side is in between the 90° and 35° angles.

Complete the diagram and label your diagram with the given measures.



2. For each set of three measurements, decide whether you can create zero triangles, one triangle, or two or more triangles. Use the space provided to show or explain your thinking.

Measurements	Number of Unique Triangles (Circle One)	Your Thinking
<ul style="list-style-type: none"> • A side 4 cm long • A side 6 cm long • A 50° angle 	0 1 2 +	
<ul style="list-style-type: none"> • A side 4 cm long • A side 5 cm long • A side 6 cm long 	0 1 2 +	
<ul style="list-style-type: none"> • A 90° angle • A 100° angle • A 30° angle 	0 1 2 +	



Science Mom Lesson 17

Unit 7.1, Lesson 2: Practice Problems

Name _____

Warm-Up

Complete each equation with a number that makes the equation true.

$$8 \cdot \underline{\quad} = 40$$

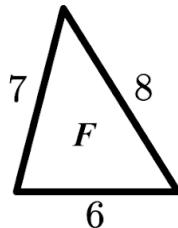
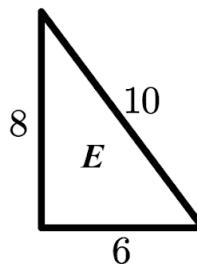
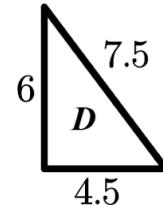
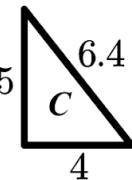
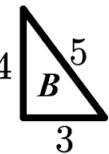
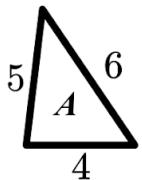
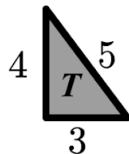
$$40 \cdot \underline{\quad} = 8$$

$$21 \div \underline{\quad} = 7$$

$$21 \cdot \underline{\quad} = 7$$

Practice

- 1.1 Select three triangles that are scaled copies of triangle T .



- 1.2 For each, write the scale factor from triangle T to that triangle.

Triangle _____

Triangle _____

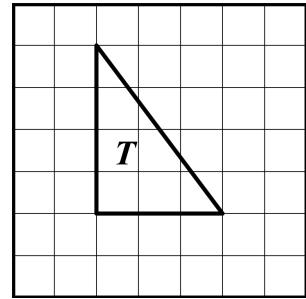
Triangle _____

Scale factor: _____

Scale factor: _____

Scale factor: _____

- 1.3 Use what you know about area to determine the area of triangle T .



2. Sketch a triangle and label its side lengths. Then draw a scaled copy and label its lengths.

Original Triangle

Scaled Copy

Unit 7.1, Lesson 3: Practice Problems

Name _____

Warm-UpDetermine the value of x that makes each equation true.

$$2 + x = 1$$

$$2 \cdot x = 1$$

$$\frac{1}{7} \cdot x = 1$$

$$x \cdot 11 = 1$$

$$x =$$

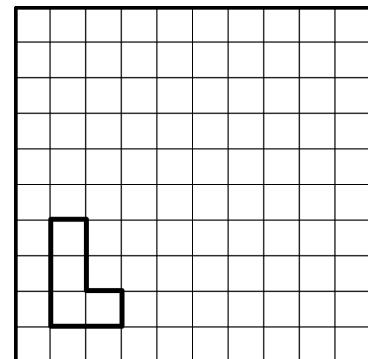
$$x =$$

$$x =$$

$$x =$$

Practice

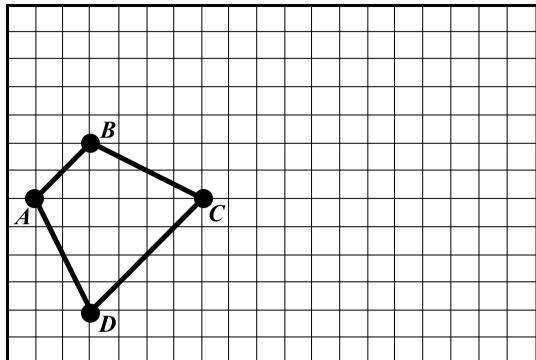
- 1.1 Draw a scaled copy of the figure on the right using a scale factor of 2.



- 1.2 What is the area of the scaled copy you drew?

- 1.3 What is the perimeter of the scaled copy?

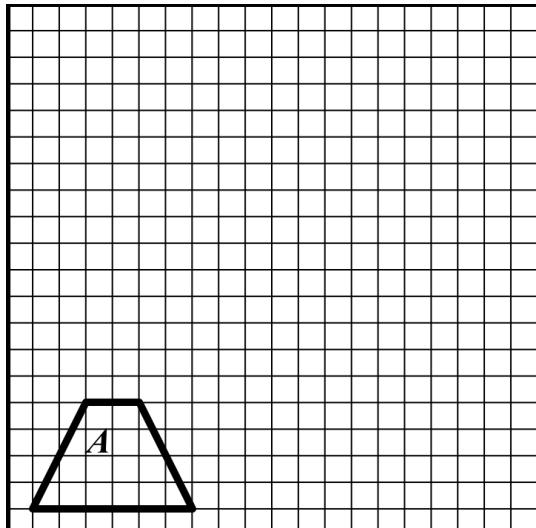
2. Draw a scaled copy of figure $ABCD$ using a scale factor of 1.5.



- 3.1 Quadrilateral B is a scaled copy of quadrilateral A . Its shortest side is 5 units long.

What is the scale factor from A to B ? _____

- 3.2 Draw quadrilateral B .



Unit 7.1, Lesson 6: Practice Problems

Name _____

Warm-Up

Rectangle A measures 6 cm by 4 cm. Rectangle B is a scaled copy of rectangle A.

Select all of the measurements that could be the dimensions of rectangle B.

- 4.5 in. by 3 in. 5 in. by 3 in. 10 in. by 8 in. 1.5 in. by 1 in.

Practice

1. Here is a scale drawing of some of the world's tallest towers.

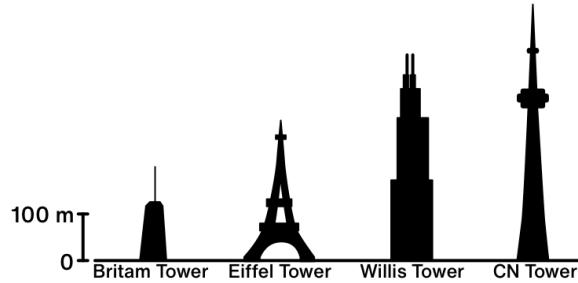
Use the scale to estimate how tall each tower is.

Britam Tower: _____

Eiffel Tower: _____

Willis Tower: _____

CN Tower: _____

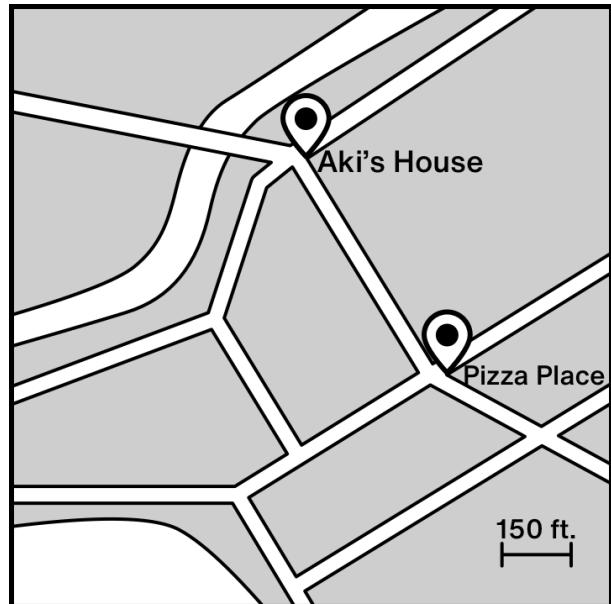


Maps are one common place to find scales. Here is a map of part of a town.

- 2.1 Approximately how far away is Aki's house from the pizza place? Explain your thinking.

- 2.2 Add and label a new location on the map.

- 2.3 Estimate the distance from Aki's house and the pizza place to your location.



Warm-Up

Light bulbs cost \$12.50 for 10 bulbs. At this rate, what is the cost of . . .

. . . 20 light bulbs?

. . . 50 light bulbs?

. . . 1 light bulb?

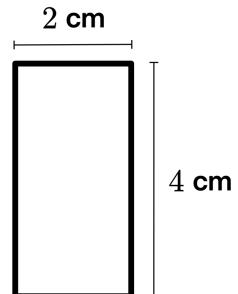
Practice

The blueprint (a scale drawing used by architects and others) for Zahra's new office measures 4 cm long and 2 cm wide. The scale for the blueprint is 6 cm to 15 ft.

- 1.1 What is the length and width of her actual office?

- 1.2 What is the actual area of her office?

- 1.3 Zahra wants to put a couch in her office that is 3 feet wide. How wide would the couch be if it were drawn on the blueprint?



- 1.4 Another office in the blueprint is 8 cm long and 4 cm wide. Would it be appropriate to say that this office is twice as large as Zahra's office? Explain your thinking.



Warm-Up

Select **all** of the scales that are equivalent to 3 cm to 4 km.

- 0.75 cm to 1 km 1 cm to $\frac{3}{4}$ km 6 km to 8 cm 7.5 cm to 10 km

Practice

Ali and Kiana buried a treasure together on their school's field.

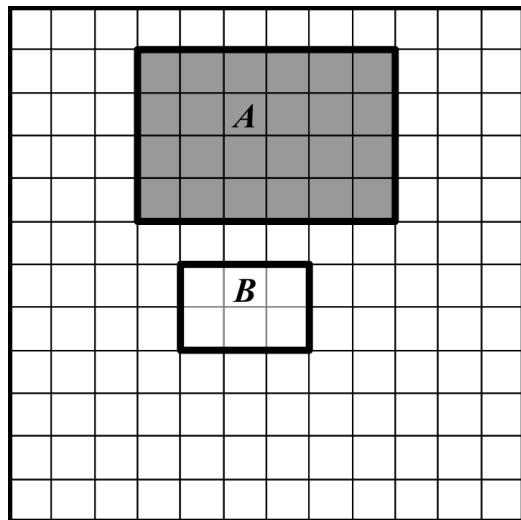
- 1.1 Ali made an 8-inch-wide map to record its location. If the actual field is 400 feet wide, write two possible scales Ali could have used to make her drawing.
 - 1.2 Kiana made her own map of the field. It used a scale of 1 in. to 20 ft. Whose drawing is larger? Explain your thinking.
 - 1.3 On Kiana's map, the treasure is 2 inches from the south edge of the field. How far is the treasure from the south edge of the field on Ali's map?
 - 1.4 On Kiana's map, the area of the baseball field is 16 square inches. Kiana says that the actual area of the baseball field is 320 square feet. Do you agree or disagree? Explain your reasoning.

Unit 8.2, Lesson 1: Practice Problems

Name _____

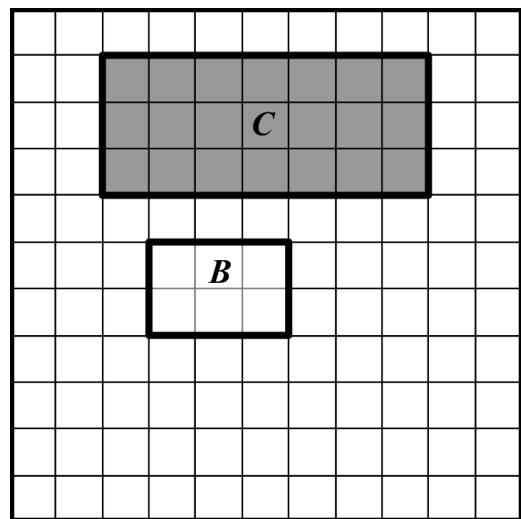
- 1.1 Is rectangle *A* similar to rectangle *B*?

Explain your thinking.

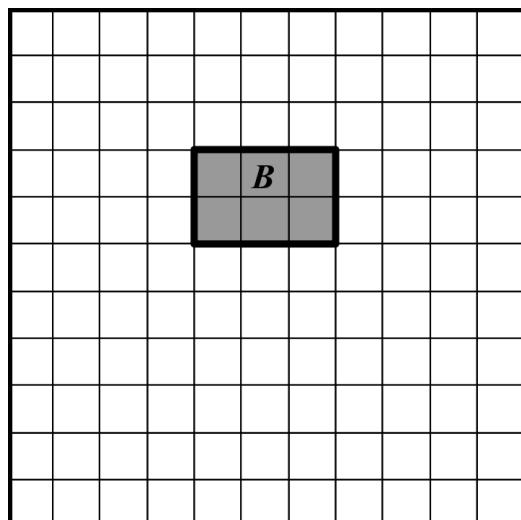


- 1.2 Is rectangle *C* similar to rectangle *B*?

Explain your thinking.



- 1.3 Draw a different rectangle that is similar to rectangle *B*.



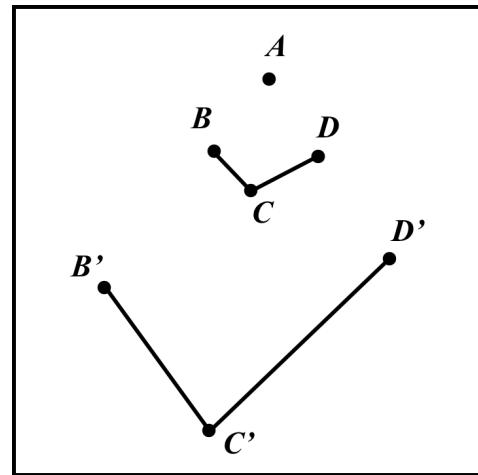
Segment AB is 3 centimeters long. Point O is the center of dilation.

1.1 How long is the image of AB after a dilation with a scale factor of 5?

1.2 How long is the image of AB after a dilation with a scale factor of 3.7?

2. Isaiah claims that $B'C'D'$ is a dilation of BCD using A as the center of dilation.

Convince Isaiah that his claim is not true.



Triangle ABC is similar to triangle DEF .

Side AB is the longest side of ABC . It measures 12 centimeters.

Side DE is the longest side of DEF . It measures 8 centimeters.

3.1 What is the scale factor that takes triangle ABC to triangle DEF ?

3.2 What is the scale factor that takes triangle DEF to triangle ABC ?

Unit 8.2, Lesson 3: Practice Problems

Name _____

Segment AB is 3 centimeters long. Point O is the center of dilation.

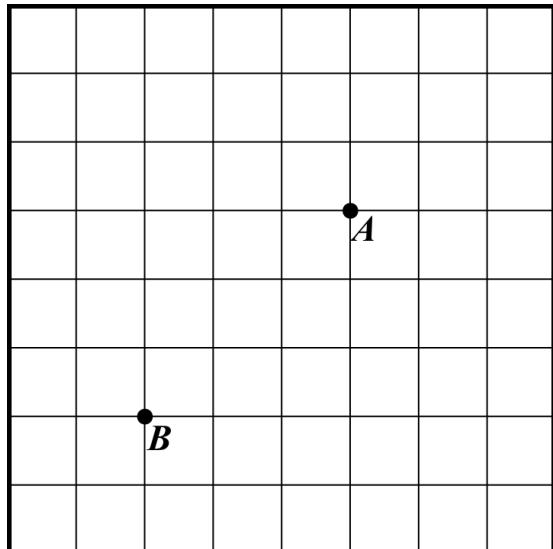
1.1 How long is the image of AB after a dilation with a scale factor of $\frac{1}{5}$?

1.2 How long is the image of AB after a dilation with a scale factor of s ?

2. Here are points A and B .

F is the image of B using A as the center of dilation and a scale factor of $\frac{1}{3}$.

Plot point F .



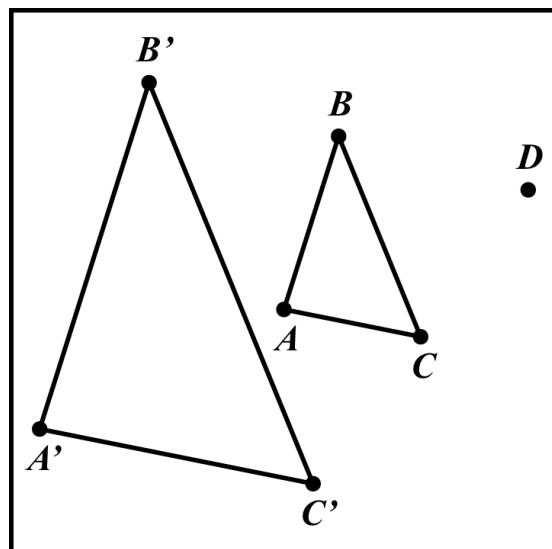
Unit 8.2, Lesson 4: Practice Problems

Name _____

1. Triangle ABC is dilated using center D with a scale factor 2. The image is triangle $A'B'C'$.

Cho says the two triangles are congruent because their angle measures are the same.

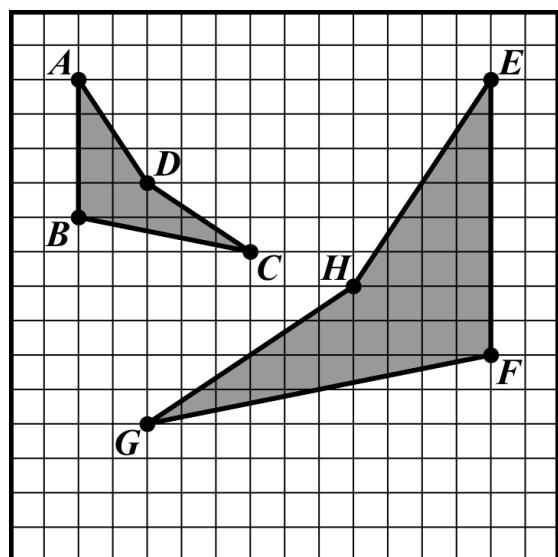
Do you agree? Explain your thinking.



Here are two similar polygons.

- 2.1 Use a ruler to find the side lengths of both polygons.

Describe what you notice.



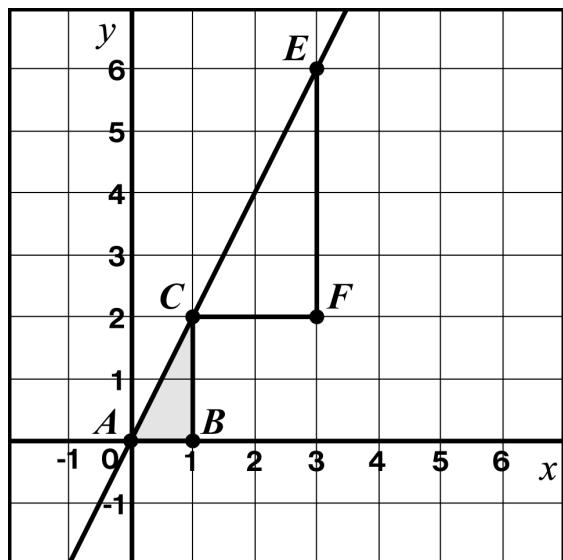
- 2.2 Use a protractor to find the angle measures of both polygons.

Describe what you notice.

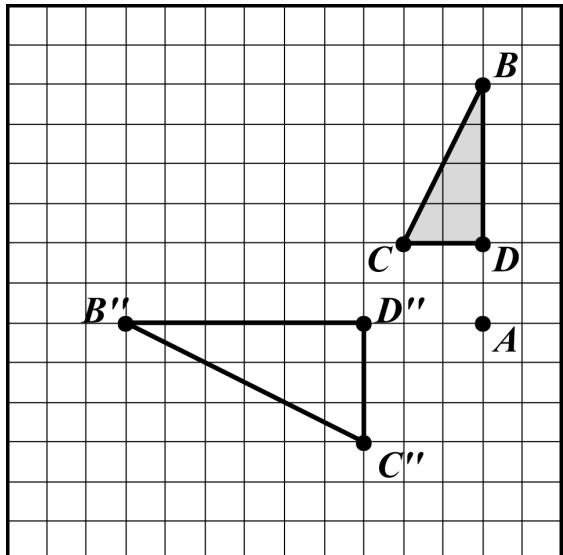
Unit 8.2, Lesson 5: Practice Problems

Name _____

- 1.1 Describe a sequence of translations, rotations, reflections, and dilations to show that the figures are similar.



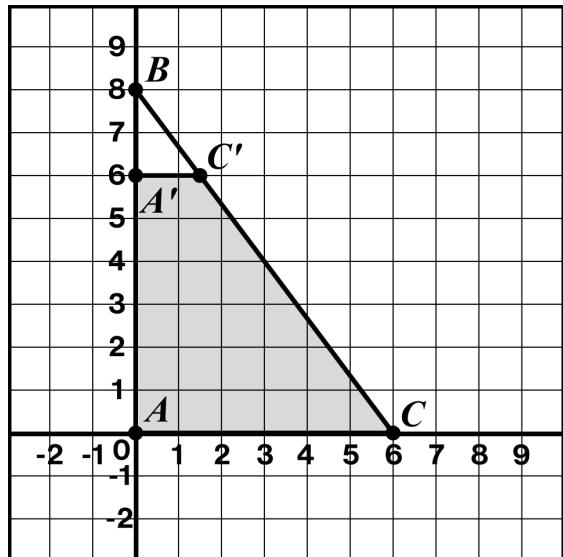
- 1.2 Describe a sequence of translations, rotations, reflections, and dilations to show that the figures are similar.



2. Here are two similar triangles.

What point is the center of dilation?

Find the length of segment $A'C'$.



Unit 8.2, Lesson 6: Practice Problems

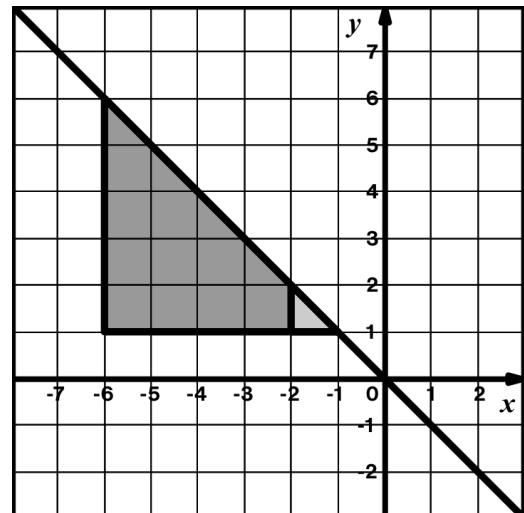
Name _____

1. Here are the pre-image and image of a dilation.

The pre-image is the large triangle. The image is the small triangle.

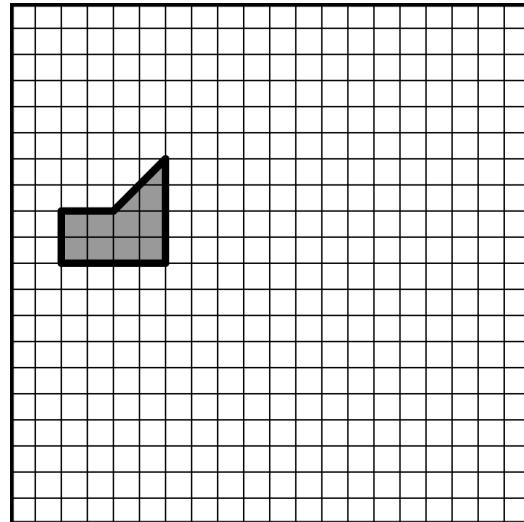
What is the center of dilation?

What is the scale factor needed to go from the large triangle to the small triangle?

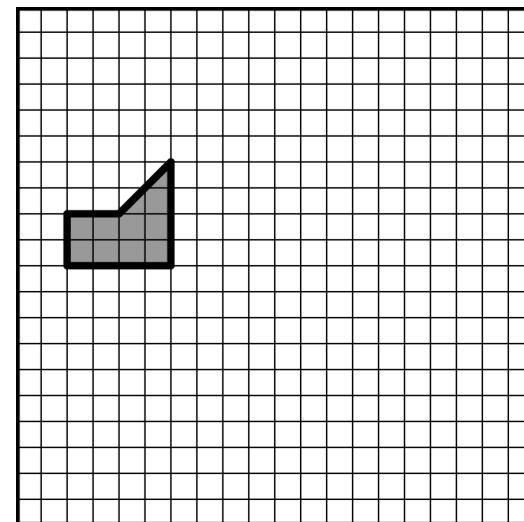


Here is a polygon.

- 2.1 Draw a similar polygon that could be mistaken for being NOT similar.



- 2.2 Draw a NOT similar polygon that could be mistaken for a similar polygon.



Unit 8.2, Lesson 7: Practice Problems

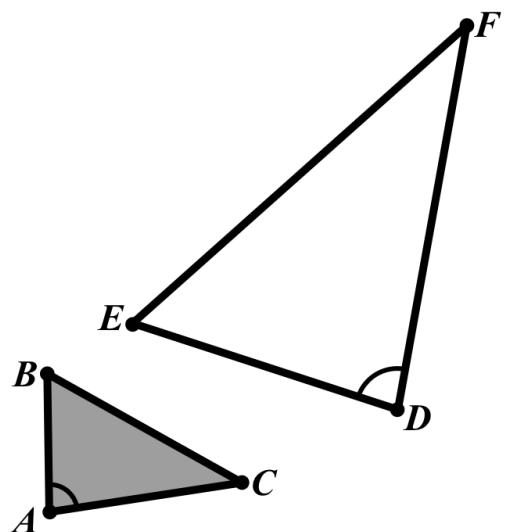
Name _____

1. Triangle DEF is similar to triangle ABC with a scale factor of 2.

In triangle ABC , the largest angle measures 82° .

What is the largest angle measure in triangle DEF ?

- 41°
- 82°
- 123°
- 164°



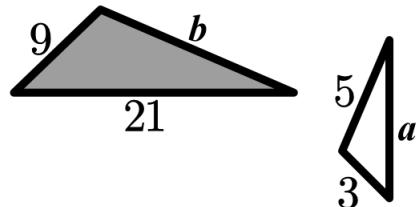
2. These two triangles are similar.

Find side lengths a and b .

Note: The two figures are not drawn to scale.

$$a = \underline{\hspace{2cm}}$$

$$b = \underline{\hspace{2cm}}$$



Unit 8.2, Lesson 8: Practice Problems

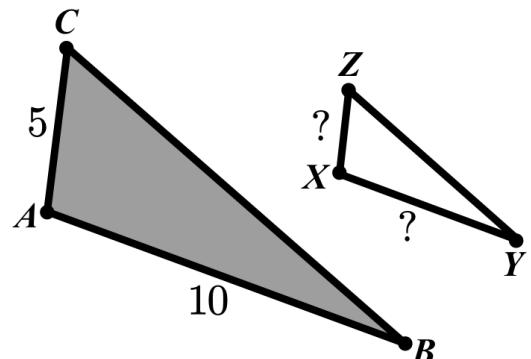
Name _____

- 1.1 Triangle XYZ is similar to ABC with a scale factor

of $\frac{1}{2}$.

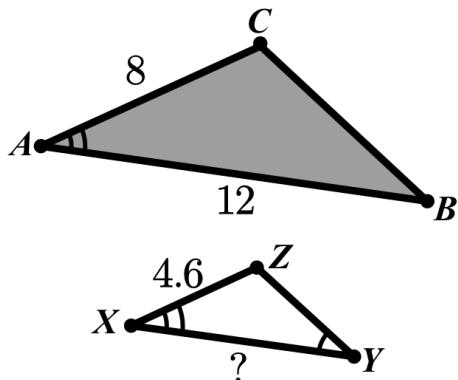
What is the length of XY ? _____

What is the length of XZ ? _____



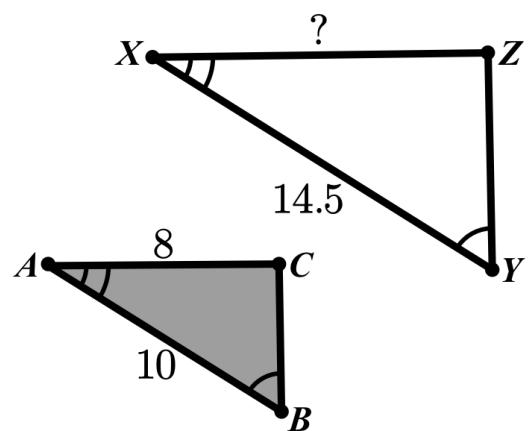
- 1.2 Triangle XYZ is similar to ABC .

What is the length of XY ? _____



- 1.3 Triangle XYZ is similar to ABC .

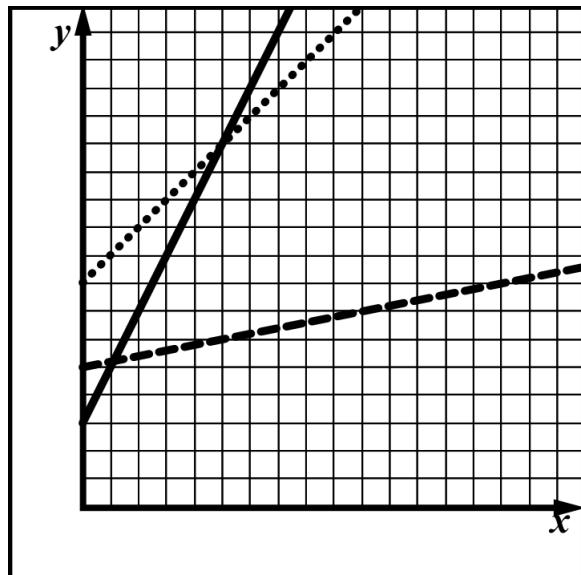
What is the length of XZ ? _____



1. Here are three lines.

Their slopes are 1, 2, and $\frac{1}{5}$.

Label each line with its slope.



Here are two right triangles.

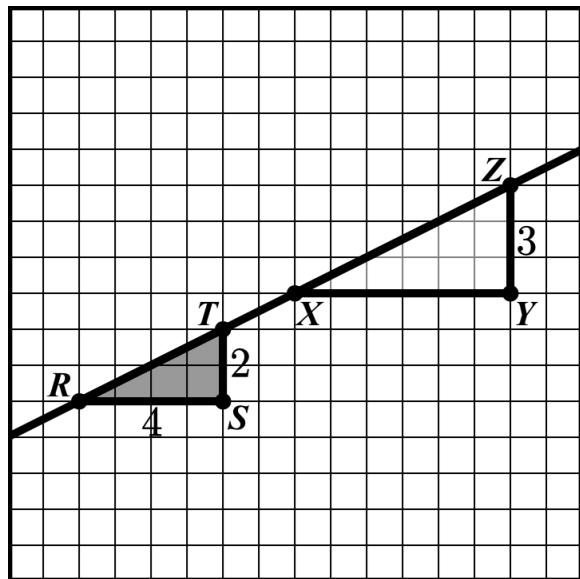
The longest side of each triangle is on the line.

2.1 How long is segment XY ?

2.2 Explain how you know the triangles are similar.

2.3 What is the slope of the line?

Explain your thinking.





Warm-Up

Complete each equation using the symbols \times , \div , $+$, or $-$.

$48 \underline{\quad} (-8) = -6$

$(-40) \underline{\quad} 8 = -5$

$12 \underline{\quad} (-2) = 14$

$18 \underline{\quad} (-12) = 6$

Practice

A sandwich store charges \$20 to have 3 subs delivered and \$26 to have 4 subs delivered.

1.1 How much does the store charge for each additional sub?

1.2 Is the relationship between the number of subs delivered and the amount charged proportional?

Explain how you know.

1.3 If the total charge is \$56, how many subs are in the order?

1.4 Explain how the store determines the price for any number of subs delivered.

Unit 7.6, Lesson 3: Practice Problems

Name _____

Warm-Up

Determine the value of each expression.

$$(100) \cdot (-0.09)$$

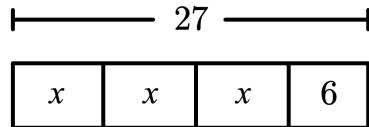
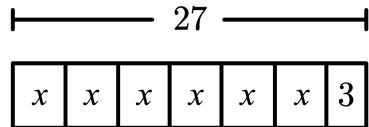
$$(-7) \cdot (-1.1)$$

$$(-7.3) \cdot (5)$$

$$(-0.2) \cdot (-0.3)$$

Practice

Here are two stories, two tape diagrams, and two equations.

Story #1: A family buys 6 tickets to a show. They also pay a \$3 parking fee. They spend \$27 total.	A.  B. 	$3x + 6 = 27$ $6x + 3 = 27$
---	---	------------------------------------

	Story #1	Story #2
1.1 Decide which tape diagram and equation represents each story.	Tape diagram: _____ Equation: _____	Tape diagram: _____ Equation: _____
1.2 What does x represent in each equation?		
1.3 Determine the value of x . Explain or show your reasoning.		
1.4 What does each solution tell you about its story?		

Warm-Up

Determine the value of each expression.

$$\frac{2}{3} \cdot \left(\frac{-4}{5}\right)$$

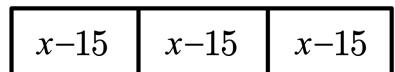
$$\left(\frac{-5}{7}\right) \cdot \left(\frac{7}{5}\right)$$

$$\left(\frac{-2}{39}\right) \cdot 39$$

$$\left(\frac{2}{5}\right) \cdot \left(\frac{-3}{4}\right)$$

Practice

1. A school ordered 3 large boxes of markers. After giving 15 markers to each of 3 teachers, there were 90 markers left. The diagram represents the situation.



How many markers were originally in each box?

Here are two stories and two equations.

Story #1: A family buys 6 tickets to a show. They also each spend \$3 on a snack. They spend \$24 total.

A. $3(x + 6) = 24$

Story #2: Amir has 24 ounces of juice. He pours equal amounts for each of his 3 friends and then adds 6 more ounces for each.

B. $6(x + 3) = 24$

	Story #1	Story #2
2.1 Decide which equation represents each story.		
2.2 What does x represent in each equation?		
2.3 Solve each equation. Draw a tape diagram if it helps you with your thinking.		
2.4 What does each solution tell you about its story?		

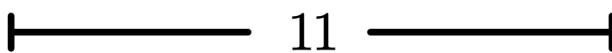
Warm-Up

Select **all** of the expressions equivalent to $2(x + 3)$.

- $2 \cdot (x + 3)$ $(x + 3) \cdot 2$ $2 \cdot x + 2 \cdot 3$ $2x + 3$ $(2 \cdot x) + 3$

Practice

- 1.1 Select **all** of the equations that match the tape diagram.

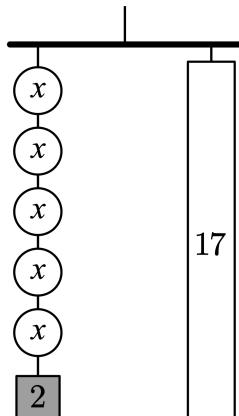


- $11 = 2 + 3x$
 $3x + 2x = 11x$
 $3 + 2x = 11$
 $11 - 2 = 3x$
 $11 = 2 + x + x + x$
 $2x + 3 = 11$

- 1.2 Draw a tape diagram that matches one of the equations you did not select in Problem 1.1.

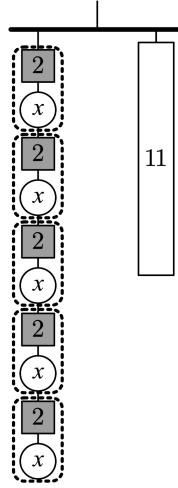
Determine the value of x so that each hanger stays balanced.

2.1



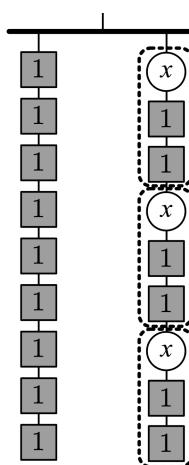
$$x = \underline{\hspace{2cm}}$$

2.2



$$x = \underline{\hspace{2cm}}$$

2.3



$$x = \underline{\hspace{2cm}}$$

Warm-Up

Mentally determine the value of x that makes each equation true.

$$(x - 1) = 5$$

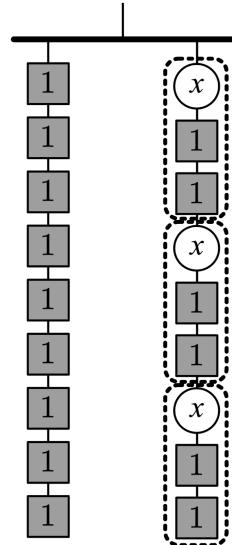
$$2(x - 1) = 10$$

$$3(x - 1) = 15$$

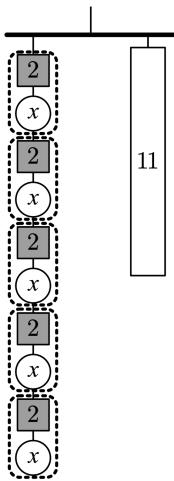
$$500 = 100(x - 1)$$

Practice

1. Explain how each part of $9 = 3(x + 2)$ is represented in the hanger.



- 2.1 Write an equation that represents this hanger.



- 2.2 What is the value of x that makes the equation true?

- 3.1 Draw a hanger that represents the equation $12.7 = 3x + 0.7$.

- 3.2 What is the value of x that makes the equation true?



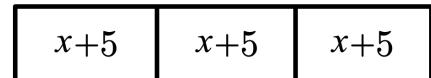
Science Mom Lesson 36

Unit 7.6, Lesson 7: Practice Problems

Name _____

Warm-Up

Select all of the expressions represented by the tape diagram.



- $3(x + 5)$ $3(x + 15)$ $x + x + x + 5 + 5 + 5$
 $(x + 5) \cdot 3$ $15 + 3x$ $3x + 5$

Practice

Solve each equation by filling in the blanks.

1.1 $15x - 10 = 65$

1.2 $3(x + 7) = -12$

1.3 $-100x - 100 = 0$

$15x = \underline{\hspace{2cm}}$

$x + 7 = \underline{\hspace{2cm}}$

$-100x = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$

$x = \underline{\hspace{2cm}}$

Solve each equation.

2.1 $-4x = -28$

2.2 $-4(x + 1) = -28$

2.3 $x + 7 = -1$

2.4 $-3x + 7 = -1$

Match each story to an equation.

3.1 A stack of nested paper cups is 8 inches tall. The first cup is $\frac{1}{4}$ inches tall and each of the rest of the cups in the stack adds $\frac{1}{4}$ inch to the height of the stack.

A. $\frac{1}{4} + 4x = 8$

3.2 A baker uses 4 cups of flour. She uses $\frac{1}{4}$ cup to flour the counters and the rest to make 8 muffins.

B. $4 + \frac{1}{4}x = 8$

3.3 Mariana has an 8-foot piece of ribbon. She cuts off a piece that is $\frac{1}{4}$ of a foot long and cuts the remainder into four equal pieces.

C. $8x + \frac{1}{4} = 4$



Science Mom Lesson 37

Unit 7.6, Lesson 8: Practice Problems

Name _____

Warm-Up

Write each expression in expanded form.

$-2(-6)$

$-2(-y)$

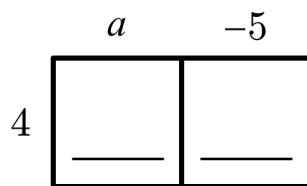
$-2(-6 + -y)$

$-2(-6 - y)$

Practice

Complete the missing information in each puzzle.

1.1

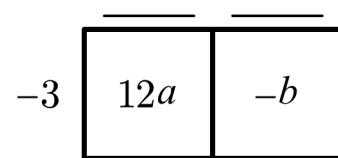
**Factored**

$4(a + -5)$

Expanded

$_____$

1.2

**Factored****Expanded**

$12a - b$

1.3

**Factored**

$_____$

Expanded

$9x - 21$

1.4

Factored

$-(3c + 8)$

Expanded

$_____$

Solve each equation.

2.1 $2(x - 3) = 14$

2.2 $-5(x - 1) = 40$

2.3 $10x + 2 = 24$

2.4 $\frac{1}{6}(x + 6) = 11$



Science Mom Lesson 38

Unit 7.6, Lesson 9: Practice Problems

Name _____

Warm-Up

Determine the value of each expression.

$$-30 \cdot -10$$

$$-10 + -30$$

$$-30 - 10$$

$$10 - (-30)$$

Practice

1. Alejandro says that $10x + 6$ and $5x + 11$ are equivalent because they equal 16 when x is 1.

Do you agree with Alejandro?

Explain your reasoning.

- 2.1 Write at least three different expressions that are equivalent to:

$$16a - 24$$

- 2.2 Write at least three different expressions that are equivalent to:

$$\frac{-1}{2} (-12x + 30)$$

Write an equivalent expression in expanded form. If you get stuck, consider drawing boxes to help organize your work.

3.1 $8(-x + \frac{1}{4})$

3.2 $-2(-6x - 1)$

3.3 $\frac{1}{5}(20y - 13)$

3.4 $9(4x + 3y + \frac{2}{3})$

Warm-Up

Select **all** of the expressions that are equivalent to $4x - 5 + 6$.

- $4x + (-5) + (6)$ $4x - 6 + 5$ $4x + 1$ $5x$ $5 + 6 - 4x$

Practice

Solve each equation.

1.1 $5(n-4) = -60$

1.2 $-3t + (-8) = 25$

1.3 $7p - 8 = -22$

1.4 $\frac{2}{5}(j + 40) = -4$

Fill in the blanks to make each equation true.

2.1 $6x + \underline{\hspace{1cm}} = 10x$

2.2 $6x + \underline{\hspace{1cm}} = 2x$

2.3 $6x + \underline{\hspace{1cm}} = -10x$

2.4 $6x + \underline{\hspace{1cm}} = 10x + 5$

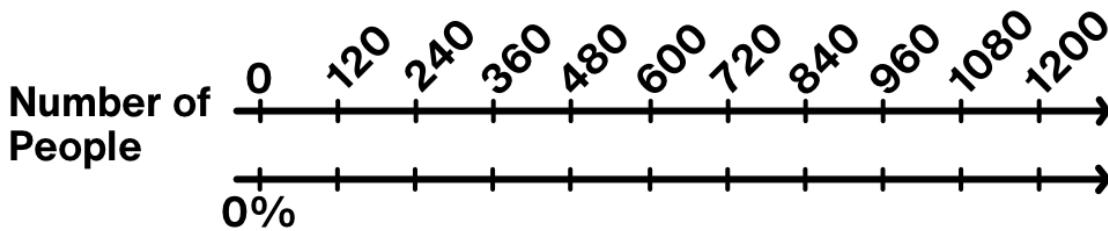
2.5 $6x - \underline{\hspace{1cm}} = 2x$

2.6 $6x - \underline{\hspace{1cm}} = x$

2.7 $6x + \underline{\hspace{1cm}} = 10$

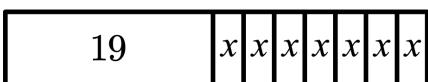
2.8 $6x - (\underline{\hspace{1cm}}) = 4x - 10$

3. A small town had a population of 960 people last year. The population grew to 1 200 people this year. By what percentage did the population grow?



Warm-Up

Write three different equations that represent the tape diagram.



1.

2.

3.

Practice

1. Select **all** the statements that are true for any value of x .

$7x + (2x + 7) = 9x + 7$

$3x + (10 - 3x) = 10$

$4x - (2x + 8) = 2x - 8$

$7x + (2x - 1) = 9x + 1$

$5x - (8 - 6x) = -x - 8$

$6x - (2x - 4) = 4x + 4$

Here is Josiah's work writing the expression $2x - \frac{1}{2}(10 - 4x)$ using fewer terms.

- 2.1 Describe the mistake that Josiah made.

- 2.2 Write an expression equivalent to $2x - \frac{1}{2}(10 - 4x)$ that has two terms.

Josiah's Strategy

$$2x - \frac{1}{2}(10 - 4x)$$

$$2x + \left(-\frac{1}{2}\right)(10 - 4x)$$

$$2x + (-5) - 2x$$

$$-5$$

3. Vicente and Zwena are trying to write $9x - 2x + 4x$ using fewer terms.

- Vicente says that $9x - 2x + 4x = 3x$ because the subtraction sign tells us to subtract everything that comes after $9x$.
- Zwena says that $9x - 2x + 4x = 11x$ because the subtraction only applies to $2x$.

Do you agree with either of them?

Explain your reasoning.

Unit 7.6, Lesson 12: Practice Problems

Name _____

Warm-Up

Determine the value of the variable that makes each equation true.

$$a \cdot 3 = -30$$

$$-9 \cdot b = -45$$

$$-89 \cdot 12 = c$$

$$d \cdot 88 = -88\,000$$

Practice

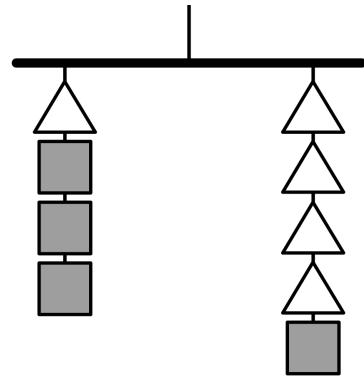
- 1.1 Match each equation to the story it describes.
- 1.2 For each story, answer the question. Explain or show your thinking.

Stories	Equations
A. The temperature outside is currently -7°C . Since midnight, the temperature tripled and then rose 5 degrees.	$5x - 7 = 3$
What was the temperature at midnight?	
B. Ama has 7 pink roses plus some white roses. She gives all of her roses away by giving 5 roses to each of her 3 favorite teachers.	$7 = 3(5 + x)$
How many white roses does Ama give away?	
C. A family of 3 goes to a fair. Tickets cost \$5 each, but each person has a coupon. They pay \$7 altogether.	$3x + 5 = -7$
How much money does each person save on buying their ticket?	
D. A club puts its members into 5 groups for an activity. 7 students leave early, so there are only 3 students left to finish the activity.	$(x + 7) = 3 \cdot 5$
How many students were in each group?	

Unit 8.4, Lesson 3: Practice Problems

Name _____

1. In this hanger, the weight of the triangle is x and the weight of the square is y . Write an equation using x and y to represent the hanger.



2. Match each set of equations with the move that turned the first equation into the second.

a) Step 1: $6x + 9 = 4x - 3$

Step 2: $2x + 9 = -3$

1. Multiply both sides by $\frac{-1}{4}$.

b) Step 1: $-4(5x - 7) = -18$

Step 2: $5x - 7 = 4.5$

2. Multiply both sides by -4 .

c) Step 1: $8 - 10x = 7 + 5x$

Step 2: $4 - 10x = 3 + 5x$

3. Multiply both sides by $\frac{1}{4}$.

d) Step 1: $\frac{-5x}{4} = 4$

Step 2: $5x = -16$

4. Add $-4x$ to both sides.

e) Step 1: $12x + 4 = 20x + 24$

Step 2: $3x + 1 = 5x + 6$

5. Add -4 to both sides.

Felipe and Makayla each tried to solve the equation $2x + 6 = 3x - 8$.

- 3.1 The result of Felipe's first step was $-x + 6 = -8$. Describe the first step Felipe made.

- 3.2 The result of Makayla's first step was $6 = x - 8$. Describe the first step Makayla made.



Science Mom Lesson 43

Unit 8.4, Lesson 4: Practice Problems

Name _____

1. Anushka and Lukas work on the equation $\frac{2}{5}b + 1 = -11$ together. Anushka's solution is $b = -25$ and Luka's is $b = -28$.

Here is their work.

Who is correct? Explain your reasoning.

Anushka

$$\begin{aligned}\frac{2}{5}b + 1 &= -11 \\ \frac{2}{5}b &= -12 \\ b &= -10 \cdot \frac{5}{2} \\ b &= -25\end{aligned}$$

LUKAS

$$\begin{aligned}\frac{2}{5}b + 1 &= -11 \\ 2b + 5 &= -55 \\ 2b &= -60 \\ b &= -30\end{aligned}$$

2. Solve the equation $3(x - 4) = 12x$.

3. Describe what is being done in each step while solving the equation.

Original equation: $2(-3x + 4) = 5x + 2$

Step 1: _____

$$-6x + 8 = 5x + 2$$

Step 2: _____

$$8 = 11x + 2$$

Step 3: _____

$$6 = 11x$$

Step 4: _____

$$\frac{6}{11} = x$$



1. Clare asks Andre to play the following number puzzle:

- Pick a number
- Add 2
- Multiply by 3
- Subtract 7
- Add your original number

Andre's final result is 27. What number did he start with?

2. In a basketball game:

- Aki scores twice as many points as Tyani.
- Tyani scores four points fewer than Nekeisha.
- Nekeisha scores three times as many points as Mariana.

If Mariana scores 5 points, how many points did Aki score?

Explain your reasoning.

3. Select all of the given points in the coordinate plane that lie on the graph of the linear equation $4x - y = 3$.

- (-1, -7)
- (0, 3)
- ($\frac{3}{4}$, 0)
- (1, 1)
- (2, 5)
- (4, -1)



Science Mom Lesson 45

Unit 8.4, Lesson 6: Practice Problems

Name _____

Solve each of these equations. Explain or show your reasoning.

1.1
$$2b + 8 - 5b + 3 = 13 + 8b - 5$$

1.2
$$2x + 7 - 5x + 8 = 3(5 + 6x) - 12x$$

Solve each of these equations. Then check your solutions.

2.1
$$3(3 - 3x) = 2(x + 3) - 30$$

2.2
$$\frac{1}{3} (z + 4) - 6 = \frac{2}{3} (5 - z)$$



Science Mom Lesson 46

Unit 8.4, Lesson 7: Practice Problems

Name _____

For each equation, decide if it is always true or never true.

1.1 $x - 13 = x + 1$

1.2 $x + \frac{1}{2} = x - \frac{1}{2}$

1.3 $2(x + 3) = 5x + 6 - 3x$

1.4 $x - 3 = 2x - 3 - x$

1.5 $3(x - 5) = 2(x - 5) + x$

2. Ivory says that the equation $2x + 2 = x + 1$ has no solution because the left-hand side is double the right-hand side.

Is Ivory correct? Explain your reasoning.

Write the other side of the equation so that it's true for . . .

3.1 . . . all values of x .

$$\frac{1}{2}(6x - 10) - x =$$

3.2 . . . no values of x .

$$\frac{1}{2}(6x - 10) - x =$$

Unit 8.4, Lesson 8: Practice Problems

Name _____

- For what value of x do the expressions $\frac{2}{3}x + 2$ and $\frac{4}{3}x - 6$ have the same value?
- Circle the story that matches the equation $-6 + 3x = 2 + 4x$.

Story A

At 5 p.m., the temperatures recorded at two weather stations in Antarctica are -6 degrees and 2 degrees.

The temperature changes at the same constant rate, x degrees per hour, throughout the night at both locations.

The temperature at the first station 3 hours after this recording is the same as the temperature at the second station 4 hours after this recording.

Story B

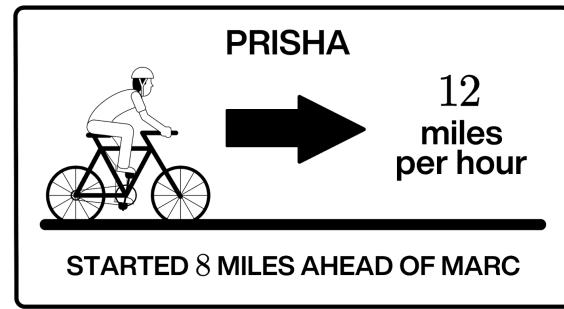
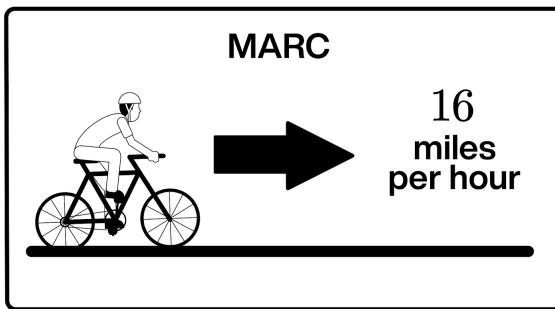
Elena and Kiran play a card game.

Every time they collect a pair of matching cards, they earn x points.

At one point in the game, Kiran has -6 points and Elena has 2 points.

After Elena collects 3 pairs and Kiran collects 4 pairs, they have the same number of points.

Prisha and Marc are biking in the same direction on the same path.



- 3.1 Write an expression for the number of miles Marc has gone after t hours.

- 3.2 Prisha started riding 8 miles ahead of Marc. Write an expression for the number of miles Prisha has biked.

- 3.3 Use your expression to find when Marc and Prisha will meet.



Science Mom Lesson 48

Unit 6.7, Lesson 6: Practice Problems

Name _____

Warm-Up

Complete each number sentence with the symbol $<$, $>$, or $=$.

$$-12 \underline{\quad} |-15|$$

$$-12 \underline{\quad} -15$$

$$12 \underline{\quad} -12$$

$$|-12| \underline{\quad} 12$$

Practice

At a book sale, all books cost less than \$5.

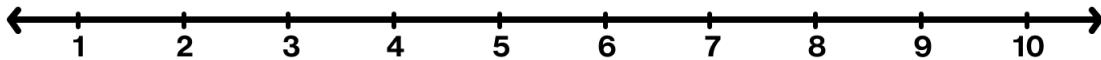
- 1.1 List three possible prices for a book at this book sale.

_____ _____ _____



- 1.2 Write an inequality to show the cost of a book, b , at the book sale.

- 1.3 Make a graph of all the possible prices of books at the sale.



Eva estimated that there are more than 100 candies in the jar.

- 2.1 List three possible numbers of candies based on Eva's estimate.

_____ _____ _____



- 2.2 Write an inequality to show Eva's estimate for c , the number of candies in the jar.

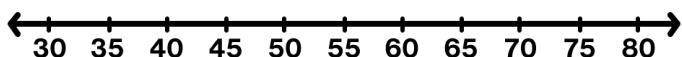
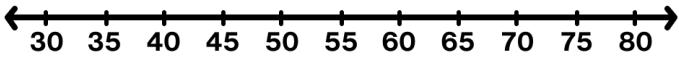
- 2.3 Make a graph showing Eva's estimate for the number of candies in the jar.



3. One day in Boston, the temperature was above 52° and below 60° . Make two inequalities and two graphs to show the temperatures, T , it could have been on that day.

Inequality: _____

Inequality: _____



Warm-Up

Complete each number sentence with a number that makes it true.

$$-0.3 > \underline{\quad}$$

$$|-0.3| > \underline{\quad}$$

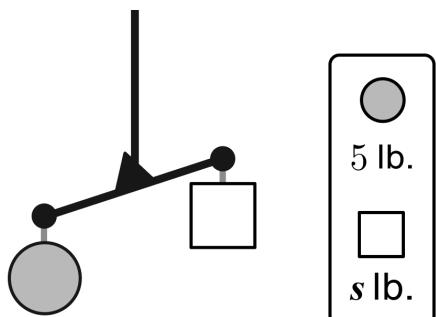
$$|-0.3| < \underline{\quad}$$

$$\underline{\quad} < 0.3$$

Practice

Here is an unbalanced hanger.

- 1.1 Which shape is heavier? Explain how you know.

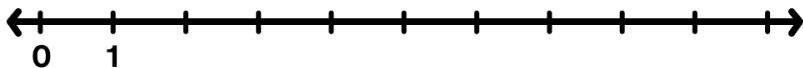


- 1.2 The circle weighs 5 pounds.

List three possible weights for the square.

- 1.3 Write an inequality to represent the hanger.

- 1.4 Graph all the possible weights of the square.



There is leftover food that has been in Jin's refrigerator for d days.

- 2.1 What does the inequality $d < 7$ tell you about Jin's food?

- 2.2 What does the inequality $d > 0$ tell you about Jin's food?

- 2.3 List three possible values of d that make both $d < 7$ and $d > 0$ true.



Warm-Up

Complete each number sentence with the symbol $<$, $>$, or $=$.

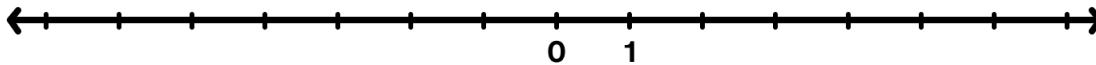
$$\left| -\frac{9}{20} \right| \quad -0.5 \quad \left| -0.5 \right| \quad \frac{9}{20} \quad \left| -\frac{9}{20} \right| \quad 0.5 \quad \left| -\frac{9}{20} \right| \quad \left| -0.5 \right|$$

Practice

- 1.1 Select all of the values of k that are solutions to the inequality $k > 5$.

 4.9 5 6 5.2 -5.01

- 1.2 Make a graph of all of the solutions to this inequality.



Complete the first three rows with an inequality that fits the given information.

Complete the last row with information that fits the given inequality.

Solutions	Inequality in Symbols
2.1 All of the solid points and none of the open points are solutions. 	
2.2 All of the solid points and none of the open points are solutions. 	
2.3 Solutions: $-\frac{2}{3}, -1.5, -5$ Not solutions: 2, 0, 100	
2.4 Solutions: _____, _____, _____ Not solutions: _____, _____, _____	$x < -2.25$

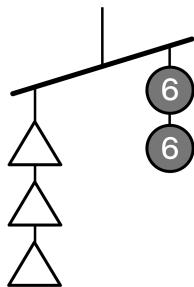
Warm-Up

Select **all** of the values that are solutions to $x \leq -4$.

 4 -4 -3.99 -4.01 0

Practice

Here is an unbalanced hanger.

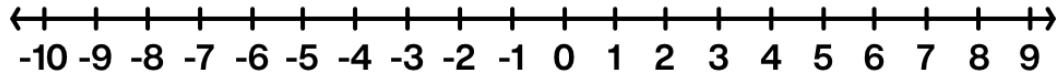


- 1.1 Write an inequality to represent the relationship of the weights. Use t to represent the weight of the triangle in grams and c to represent the weight of the circle in grams.
- 1.2 Each circle weighs 6 grams. Write an inequality to represent the weight of one triangle.

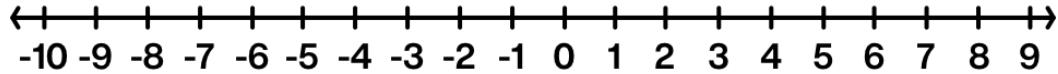
Explain your reasoning.

Draw the solution set of each inequality.

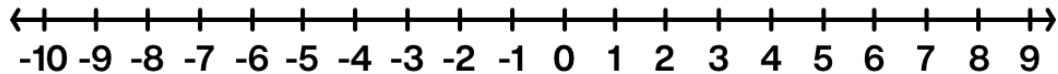
2.1 $5x \leq -20$



2.2 $11 > 2x + 1$



2.3 $2(x + 3) > 18$



Warm-Up

Determine the products.

$$\frac{2}{5} \cdot -10$$

$$-8 \cdot \left(\frac{-3}{2}\right)$$

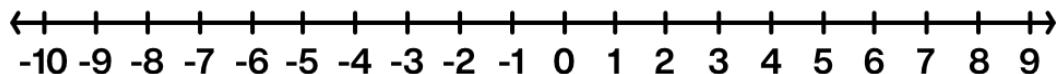
$$\left(\frac{10}{6}\right) \cdot 0.6$$

$$\left(\frac{-100}{37}\right) \cdot (-0.37)$$

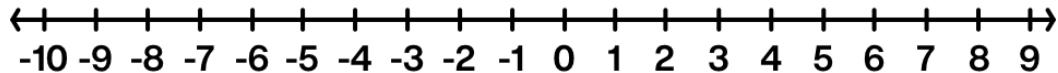
Practice

Draw the solution set of each inequality.

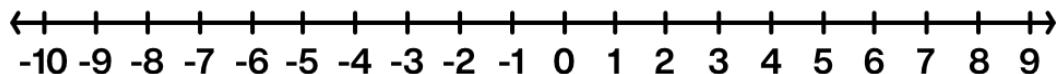
1.1 $x > 7$



1.2 $2x \geq -7$



1.3 $3x + 1 < 4$



Solve the inequality that represents each story. Then interpret what the solution means in the story.

- 2.1 Alina donates x dollars out of every \$9 that she earns. This happens 7 times this month. Alina wants to be sure she keeps at least \$42 from this month's earnings.

$$7(9 - x) \geq 42$$

- 2.2 Jamir buys a candle that is 9 inches tall and burns down 0.5 inches per minute. He wants to let the candle burn for x minutes until it is less than 6 inches tall.

$$9 - 0.5x < 6$$

Warm-Up

Select **all** of the values of x that make the inequality $-x + 6 \geq 10$ true.

- 3.9 4 -4.01 -4 4.01 3.9 0 -7

Practice

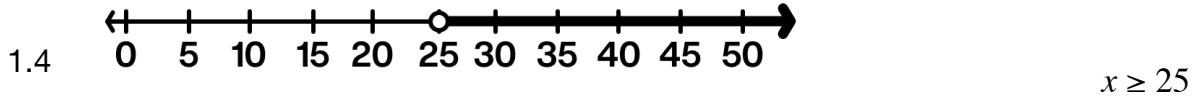
The library is having a party for any student who read at least 25 books over the summer. Determine which inequality describes each situation.

- 1.1 Ricardo read x books and was invited to the party.

$$x < 25$$

- 1.2 Prisha read x books over the summer but was not invited to the party.

$$x > 25$$



- 2.1 Select **all** of the values of x that make the inequality $100 - 3x \geq -50$ true.

- 0 50 -50 49.9 50.1

- 2.2 In order to solve the inequality $100 - 3x \geq -50$, Makayla solves the equation $100 - 3x = -50$ and gets $x = 50$. What is the solution to the inequality?

- 2.3 Explain what the solution to the inequality means.



Warm-Up

Select **all** of the inequalities that have the same solutions as $-4x < 20$.

- $-x < 5$ $4x > -20$ $4x < -20$ $x < -5$ $x > -5$ $x > 5$

Practice

When a store sold $\frac{2}{5}$ of the shirts that were on display, they brought out another 30 from the stockroom. The store likes to keep at least 150 shirts on display.

The manager wrote the inequality $\frac{3}{5}x + 30 \geq 150$ to describe the situation.

1.1 Explain what $\frac{3}{5}$ means in the inequality.

1.2 Solve the inequality.

1.3 Explain what the solution to the inequality means in this situation.

Camila has up to \$100 to spend on her birthday party at a city swimming pool. There will be 15 friends total. She also plans to spend \$38.50 on pizza. How much can she spend per person to go to the pool?

2.1 Write an inequality to represent this situation.

2.2 Solve the inequality you wrote.

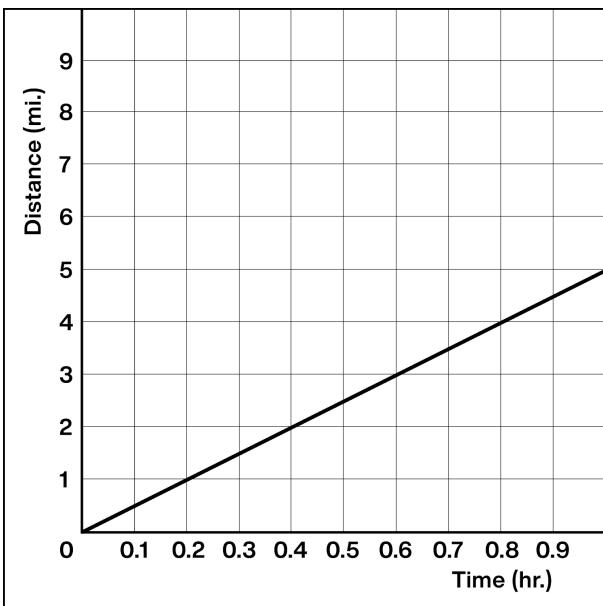
2.3 Explain what the solution to the inequality means in this situation.

Unit 8.3, Lesson 1: Practice Problems

Name _____

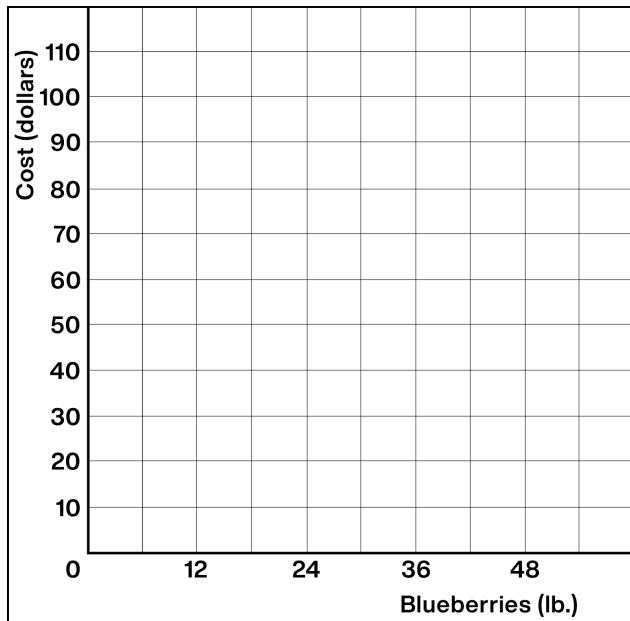
1. Shanice jogs at a constant speed. The relationship between her distance and time is shown on the graph.

Bao bikes at a constant speed twice as fast as Shanice. On the same axes, sketch a graph showing the relationship between Bao's distance and time.



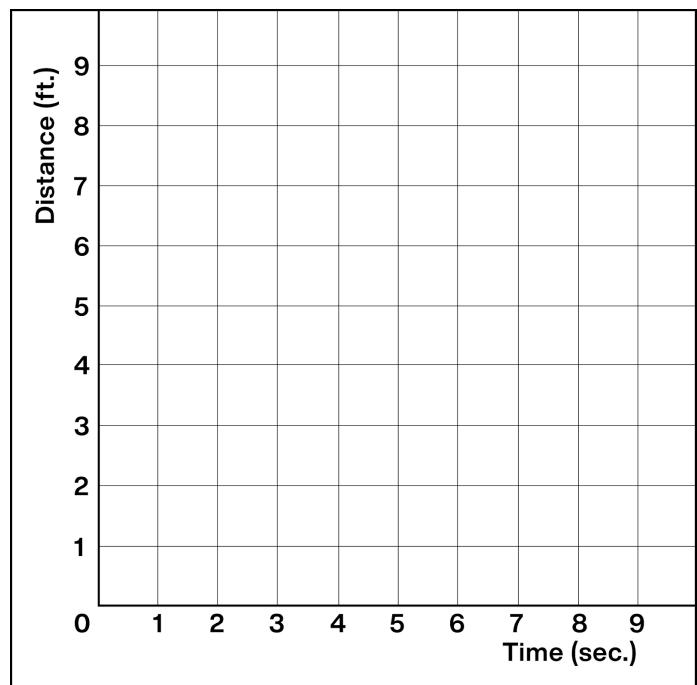
2. A pick-your-own blueberry farm offers 6 pounds of blueberries for \$14.

Sketch a graph of the relationship between cost and pounds of blueberries.



Two people begin walking from the same location. One person walks at a speed of 1 foot per second. The second person walks three times as fast.

- 3.1 Sketch the relationship between distance and time for each person.
- 3.2 Explain how you drew the line to represent the faster walker.



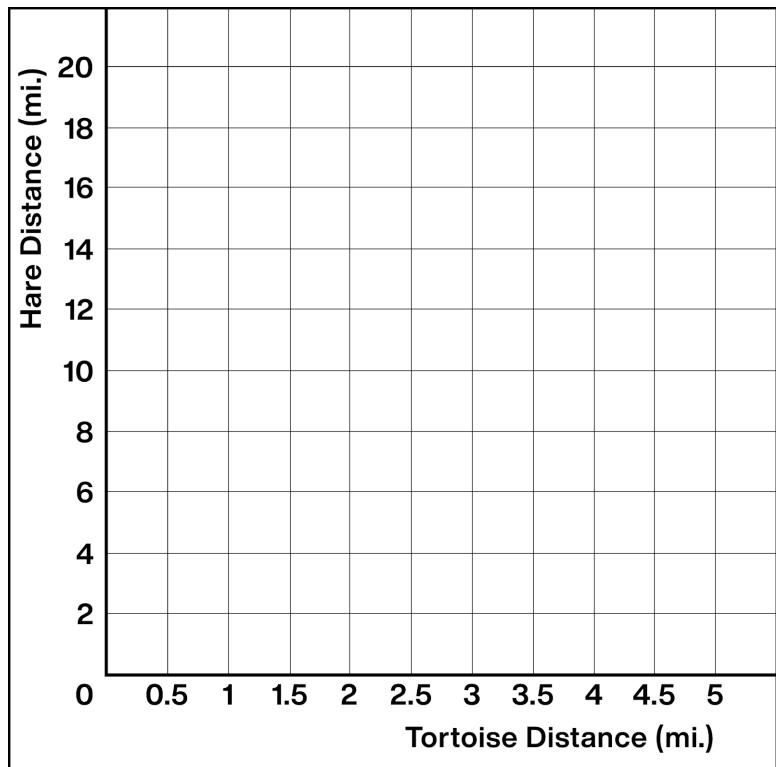
Unit 8.3, Lesson 2: Practice Problems

Name _____

1. The tortoise and the hare are having a race.

The equation $y = 4x$ represents the relationship between the tortoise's distance, x , and the hare's distance, y . Both distances are measured in miles.

Sketch a graph showing the relationship between the hare's distance and the tortoise's distance.



The table shows a proportional relationship between the distance walked and the calories burned recorded on a fitness tracker.

- 2.1 Complete the table.

Distance (miles)	Energy (calories)
5	375
12	
	675
1	

- 2.2 Describe the scales you could use on the x - and y -axes of a coordinate grid that would show all the distances and energies in the table.



Science Mom Lesson 57

Unit 8.3, Lesson 3: Practice Problems

Name _____

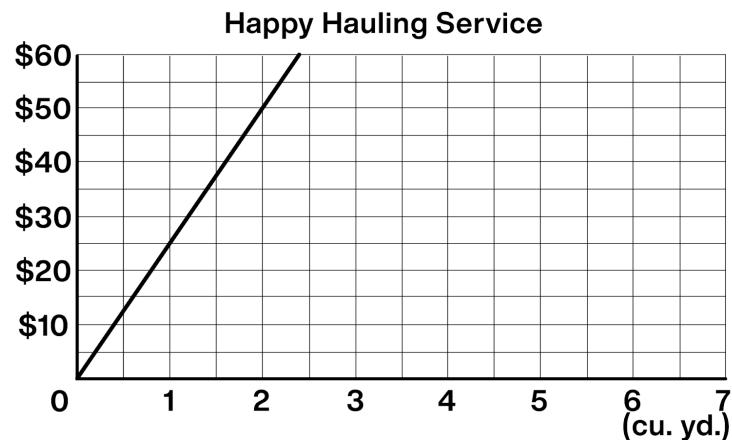
1. Javier and Ebony track the number of steps they walk. Javier records a walk of 6,000 steps in 50 minutes. Ebony describes her step rate with the equation $y = 118x$, where y is the number of steps and x is the number of minutes she walks.

This week, Javier and Ebony each walk a total of 5 hours. Who walks more steps?

How many more steps do they walk?

A contractor must haul a large amount of dirt to a work site. She collected cost information from two companies.

- 2.1 Calculate the rate of change for Happy Hauling Service.



- 2.2 Calculate the rate of change for EZ Excavation.

EZ Excavation

Dirt (cu. yd.)	Cost (dollars)
8	196
20	490
26	637

- 2.3 If the contractor has 40 cubic yards of dirt to haul and only cares about price, which hauling company should she hire? Explain your thinking.

Unit 8.3, Lesson 4: Practice Problems

Name _____

1. A restaurant offers delivery for their pizzas and includes the delivery fee in the total price of the pizzas. One customer pays \$25 to have 2 pizzas delivered. Another customer pays \$58 for 5 pizzas.

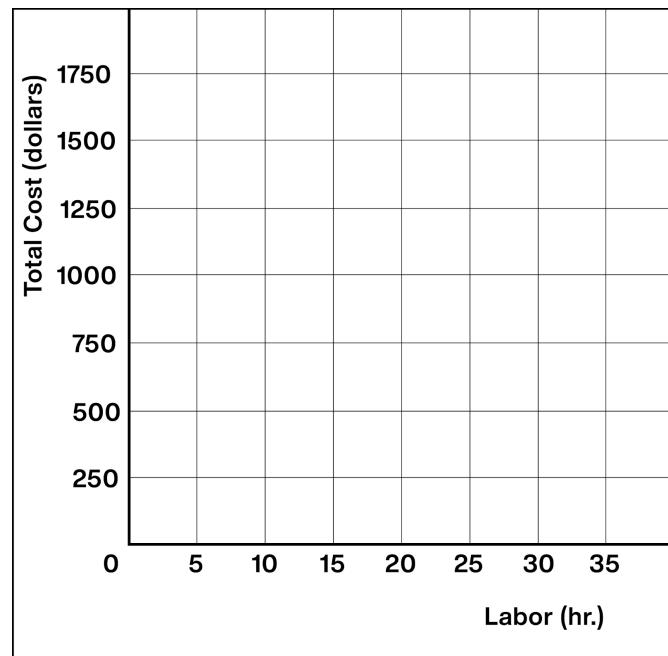
How many pizzas are delivered to a customer who pays \$80 ?

To paint a house, a painting company charges a flat rate of \$500 for supplies plus \$50 for each hour of labor.

- 2.1 How much would the painting company charge to paint a house that needs 20 hours of labor? 50 hours of labor? Write your answers in the table.

Labor (hours)	Cost (dollars)
20	
50	

- 2.2 Sketch a line representing the relationship between the number of hours of labor needed to paint the house and the total cost of paint.



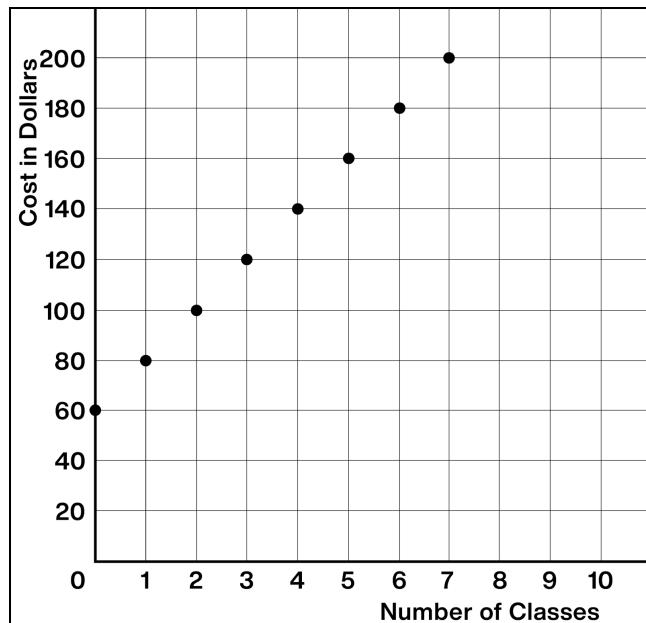
Unit 8.3, Lesson 5: Practice Problems

Name _____

Customers at a gym pay a membership fee to join and then a fee for each class they attend. Here is a graph that represents the scenario.

1.1 What is the slope of the line?

1.2 Write the equation of the line that passes through these points.



Explain what the slope and y -intercept mean in each situation.

- 2.1 Amara is graphing the relationship between the amount of money, y , in a cash box after x tickets are purchased for carnival games. The slope of the line is $\frac{1}{4}$ and the y -intercept is 8.
- The slope means . . .
 - The y -intercept means . . .
- 2.2 Kayleen is graphing the relationship between the cost in dollars of a muffin delivery, y , and the number of muffins ordered, x . The slope of the line is 2 and the y -intercept is 3.
- The slope means . . .
 - The y -intercept means . . .



Science Mom Lesson 60

Unit 8.3, Lesson 6: Practice Problems

Name _____

1. Select **all** of the equations that would produce graphs with the same y -intercept.

$y = 3x - 8$

$y = 3x - 9$

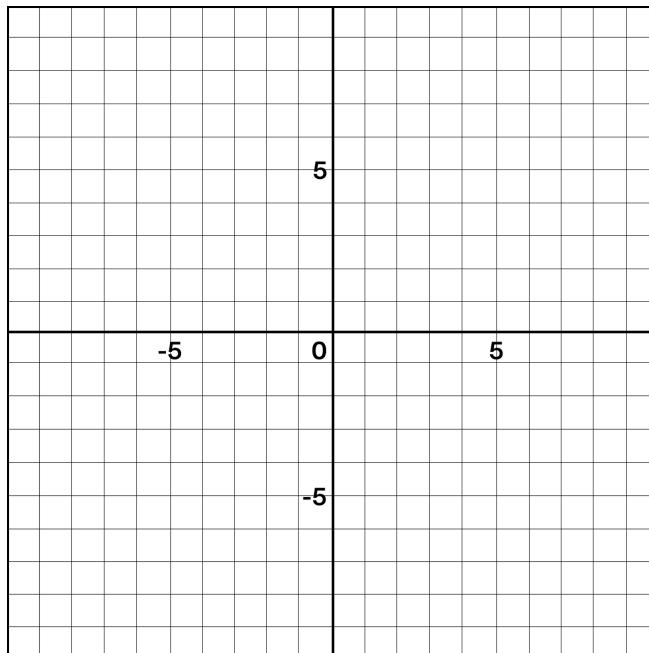
$y = 3x + 8$

$y = 5x - 8$

$y = 2x - 8$

$y = \frac{1}{3}x - 8$

2. Sketch the lines $y = \frac{1}{4}x$ and $y = \frac{1}{4}x - 5$ on the same set of axes.



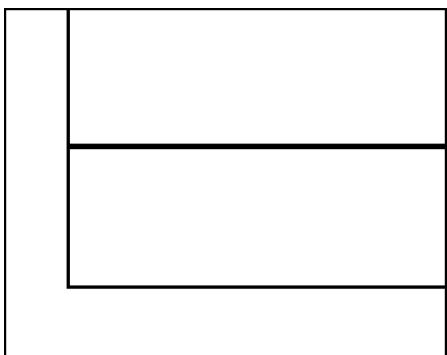
Is one a translation of the other? Explain your thinking.

Unit 8.3, Lesson 7: Practice Problems

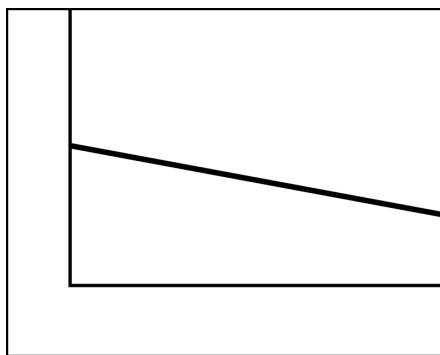
Name _____

1. Draw a line to match each scenario with its graph. Then say whether the slope is positive, negative, or zero.

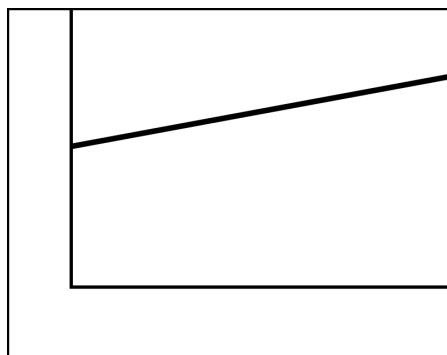
A. The car is speeding up at a rate of 5 miles per minute.



B. The car is maintaining a constant speed of 30 miles per hour.

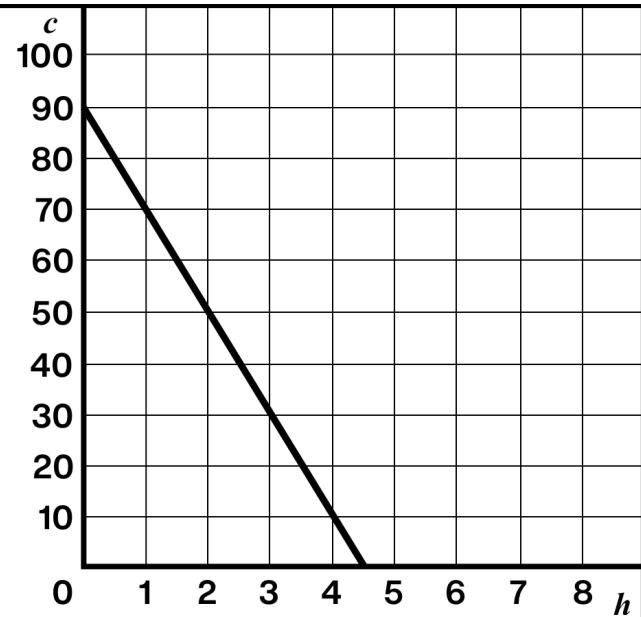


C. The car is slowing down at a rate of 10 miles per minute.



I monitor the amount of battery left on my computer so I can make sure it doesn't die at the wrong time. My battery loses charge at a constant rate. This graph shows the percent of charge left on my computer, c , after I have been awake for h hours.

- 2.1 What was the percent charge when I woke up?



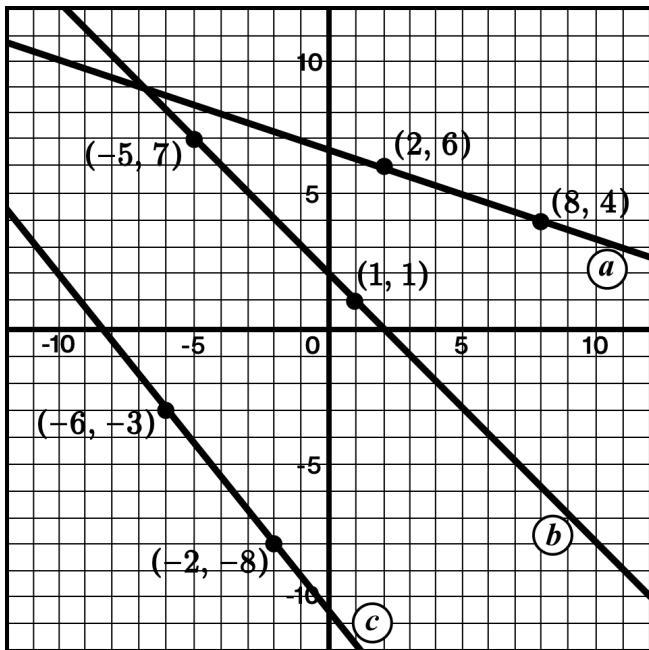
- 2.2 Write an equation that describes the relationship between c and h .

- 2.3 How many hours will I have been awake when my computer has no charge left?

Unit 8.3, Lesson 8: Practice Problems

Name _____

1. Calculate the slope of each line.



Line	Slope
<i>a</i>	
<i>b</i>	
<i>c</i>	

2. Which pairs of points have lines passing through them with a slope of $\frac{2}{3}$?

- (0, 0) and (2, 3)
- (0, 0) and (3, 2)
- (1, 5) and (4, 2)
- $(-2, -2)$ and (4, 2)
- (20, 30) and $(-20, -30)$

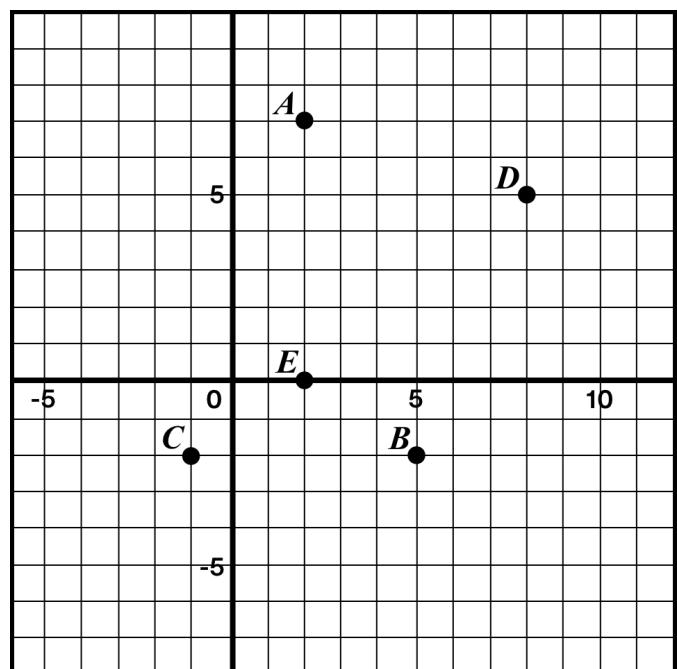
Draw a line with the given slope through the given point.

- 3.1 Through point *A* with a slope of -3 .

Which other point lies on that line?

- 3.2 Through point *A* with slope of $-\frac{1}{3}$.

Which other point lies on that line?





Science Mom Lesson 63

Unit 8.3, Lesson 9: Practice Problems

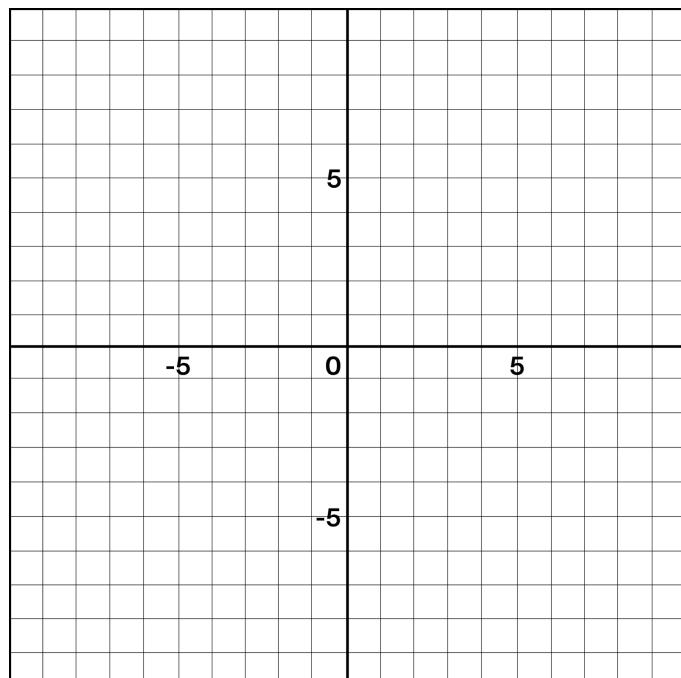
Name _____

- 1.1 Suppose you wanted to graph the equation $y = -4x - 1$. Describe the steps you would take to draw the graph.

- 1.2 How would you check that the graph you drew is correct?

Graph the following lines and then write an equation for each:

- 2.1 A line with a slope of 0 and a y -intercept of 5.
- 2.2 A line with a slope of 2 and a y -intercept of -1.
- 2.3 A line with a slope of $-\frac{1}{2}$ and a y -intercept of 1.



3. Write an equation for each line.

Line	Equation
l	
m	
n	
p	

