



PSD MATH REVIEW: GRADE 8 MATH

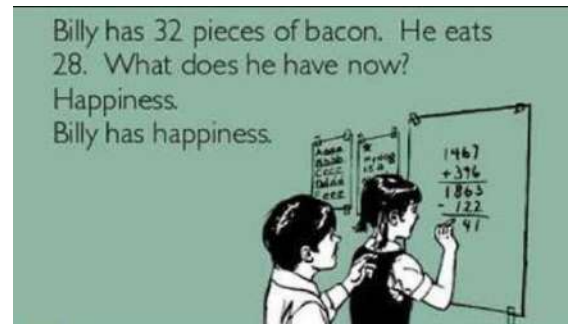
This packet is a general review of important concepts in Grade 8 Math.

In this packet, you'll find:

- A) Practice items from content earlier in the year. Your teachers have the answer key. Check in with them for help or to check your work!
- B) Need math help 24/7? Click on this link to Khan Academy. Search by topic to see examples done on video. For example, students could search "factoring quadratics" or "exponential growth and decay" or "rules of logarithms."

These videos can be found at: <https://www.khanacademy.org/>

- C) Contact your math teacher directly via e-mail or Schoology for questions, help & support. Reach out to your teachers!



Puyallup School District Virtual Learning Resources

Virtual Learning Opportunities – Puyallup Teachers will communicate lessons and activity resources through your child’s Schoology Course or Group. Your child’s teacher is ready to support your student through virtual learning!

Clever- a platform that makes it easier for schools to use many popular educational technology products. Essentially, it is a “bookmark” bar for the educational system- curriculum, support, and accessible links are housed in one location. You can access through PSD Favorites folder in the internet browser on a district issued device.

PSD Sites (District)



Schoology- The Puyallup School District platform teachers use to communicate, send course updates, collect assignments and assessments, host Schoology conferences (audio and video) and is the electronic gradebook.



Greetings Parents and Guardians:

This school year, all students in the Puyallup School District will have an account in our new Learning Management System called **Schoology**. We encourage all parents to set up an account as well. }

Chapter 1: Math 8 - Expressions and Equations (EE)
Solving One-Variable Equations (8.EE.7b)

Name _____
Date _____ Class Period _____

Solve each equation.

1. $4x - 12 = 4$

2. $-3(2x - 8) = 30$

3. $9x - 5 = 2x + 9$

$x =$ _____

$x =$ _____

$x =$ _____

4. $5x - 4 + 7x - 2 = -78$

5. $3(x + 5) - 8 = -(2x - 32)$

$x =$ _____

$x =$ _____

7. John and Jennifer each solve the equation $6x - 7 = 29$, but each of them got a different solution. Who solved the equation correctly? Describe the error made by the other student.

John's Work	Jennifer's Work	Who is correct? _____
$6x - 7 = 29$ $+7 \quad +7$ $\frac{6x}{6} = \frac{36}{6}$ $x = 6$	$6x - 7 = 29$ $-7 \quad -7$ $\frac{6x}{6} = \frac{22}{6}$ $x = \frac{11}{3}$	Describe the other student's error. _____ _____ _____

Solve for x.

8. $\frac{1}{2}(6x - 10) + 2x = 35$

x = _____

What value of x makes the equation true?

9. $\frac{x + 6}{4} = 6$

☐ -14

☐ -16

☐ -2

☐ 18

10. Sanjeet and his team members were looking at the total points scored by each player during the basketball season. Sanjeet scored three times as many points as Terrence. Cole scored 4 more points than Sanjeet. Together the boys scored 970 points during the entire season. How many points did each boy score?

Use the following equation to help you solve this problem. Let x represent Terrence's points.

$$x + 3x + 3x + 4 = 970$$

Cole: _____ points

Terrence: _____ points

Sanjeet: _____ points

13. At Shoes for Less, a pair of shoes is \$15 less than a pair of boots. Cho purchased two pairs of shoes and three pairs of boots for \$150. How much does a pair of boots cost?

A. Which equation could be used to determine the cost of the boots (b)? (Circle your answer)

A. $b - 15 + b = 150$

B. $2(b - 15) + 3b = 150$

C. $3(b - 15) + 2b = 150$

D. $5b - 15 = 150$

B. What is cost of a pair of boots? \$ _____

Chapter 1: Continued: Math 8 - Expressions and Equations (EE)
Solving Equations with Special Solutions (8.EE.7a)

Name _____
Date _____ Class Period _____

1. Indicate whether the equation has no solution, one solution, or infinitely many solutions.

Equation	No Solution	One Solution	Infinitely Many Solutions
a. $6x + 14 = 14$			
b. $8x + 10 = 8x - 10$			
c. $12x + 2 = 12 + 2x$			
d. $6 + 5x = 5x + 6$			
e. $-3x - 21 = 3x + 21$			
f. $x - 7 = 7 + x$			

Tell whether the following equation has one solution, no solution, or infinitely many solution. Show your work.

2. $2(x + 4) + 6x = 12x + 8 - 3x$

3. $3 + 8x - 12 = 5x + 3(x - 4)$

Circle One **No** **Infinitely Many**
One: **Solution** **Solution** **Solutions**

Circle One **No** **Infinitely Many**
One: **Solution** **Solution** **Solutions**

4. Write a number in each blank to create an equation that has **infinitely many solutions**.

5. Write a number in each blank to create an equation that has **no solution**

$2(4x + 3) = \underline{\hspace{2cm}} x + \underline{\hspace{2cm}}$

$9x - 5x + 7 = \underline{\hspace{2cm}} x + \underline{\hspace{2cm}}$

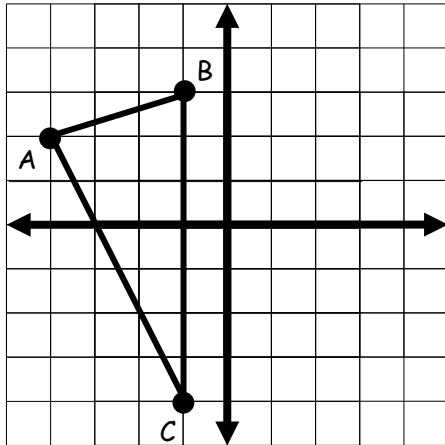
6. Kim is solving the following linear equation: $12 + 4x - 8 = 6x + 7 - 2x$

Her final two steps are: $4 + 4x = 4x + 7$
 $4 = 7$

Select the statement that correctly interprets Kim's solution. (Circle your answer)

- A. There are infinitely many solutions since $4 = 7$ is a false statement
- B. The solution is $x = 2$
- C. The solution is the ordered pair $(4, 7)$
- D. There is no solution since $4 = 7$ is a false statement

1. Create triangle $A'B'C'$ by **reflecting** triangle ABC over the y -axis on the coordinate plane. What are the new coordinates of the vertices?

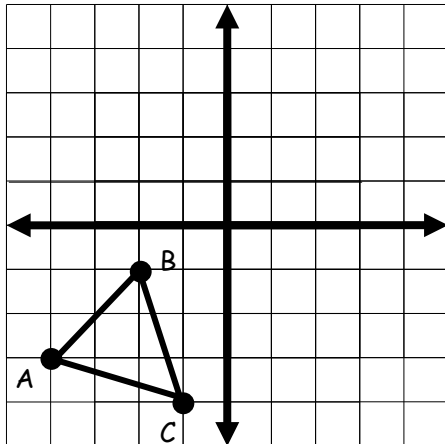


A' (_____ , _____)

B' (_____ , _____)

C' (_____ , _____)

2. Create triangle $A'B'C'$ by **rotating** triangle ABC 90° clockwise around the origin on the coordinate plane. What are the new coordinates of the vertices?

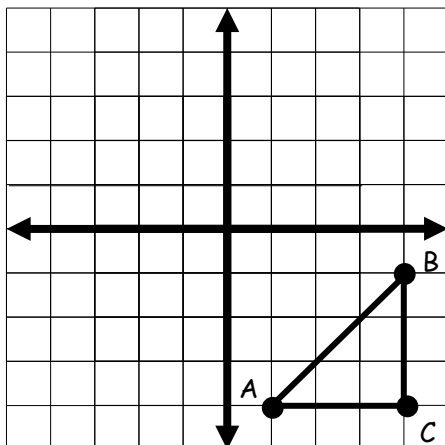


A' (_____ , _____)

B' (_____ , _____)

C' (_____ , _____)

2. Create triangle $A'B'C'$ by **translating** triangle ABC left 4, up 2 on the coordinate plane. What are the new coordinates of the vertices?

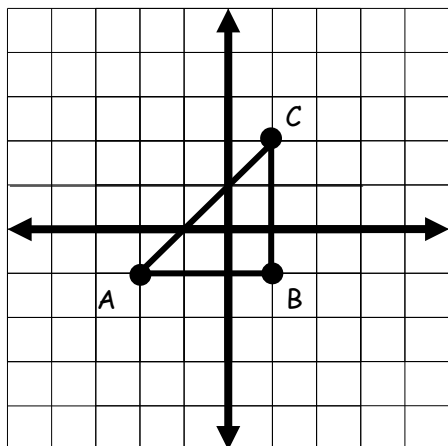


A' (_____ , _____)

B' (_____ , _____)

C' (_____ , _____)

3. Create triangle A'B'C' by **dilating** triangle ABC by a scale factor of 2 on the coordinate plane. What are the new coordinates of the vertices?



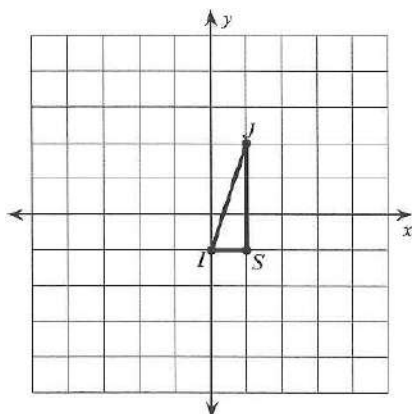
A' (_____ , _____)

B' (_____ , _____)

C' (_____ , _____)

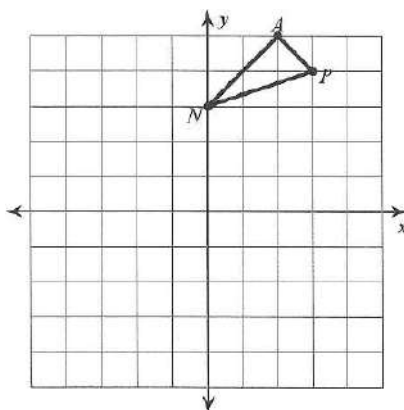
Find the new coordinates of the identified point after the given transformation.

4. Reflect: Over the y-axis



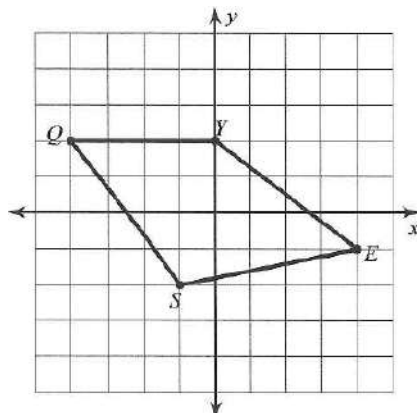
Point J' New coordinates: (_____ , _____)

5. Translate: Down 5, Left 2



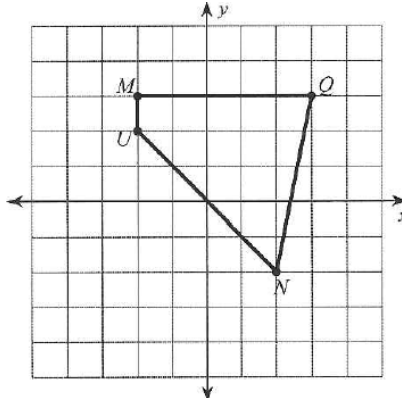
Point A' New coordinates: (_____ , _____)

6. Dilate: Scale factor of .5



Point Q' New coordinates: (_____ , _____)

7. Rotate: 90° Counterclockwise

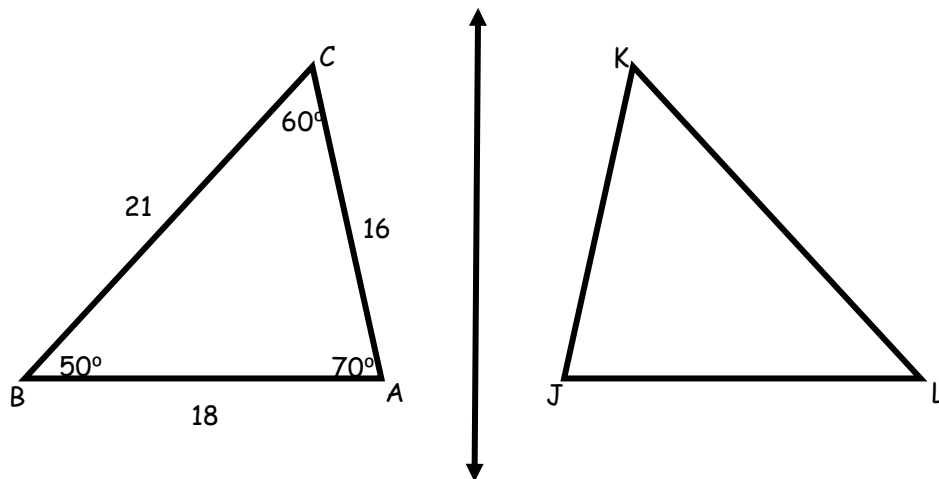


Point N' New coordinates: (_____ , _____)

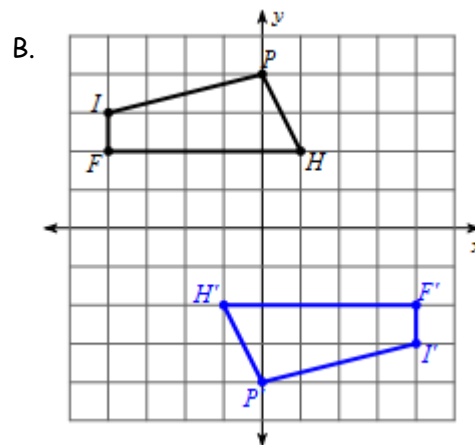
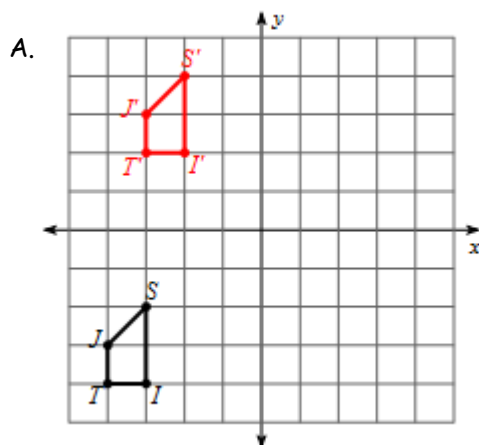
Chapter 9: Math 8 - Geometry (G)
Analyzing Transformations (8.G.1, 8.G.2, 8.G.4)

Name _____
Date _____ Class Period _____

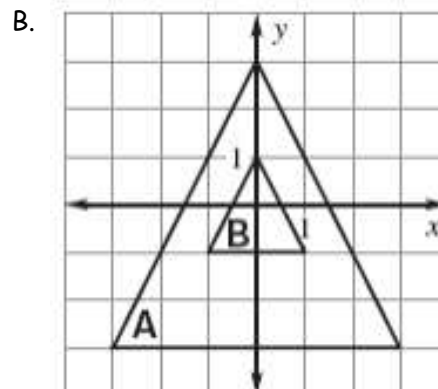
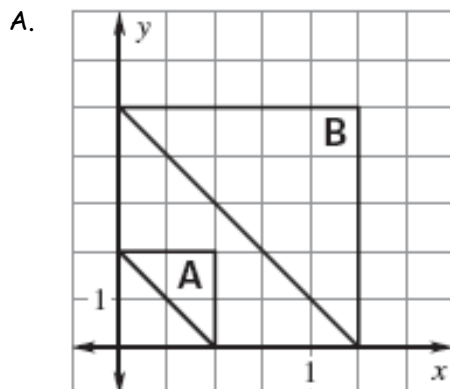
1. Triangle ABC is reflected over a vertical line to create its mirror image. Use the measurements shown in the original triangle to label all three angle measurements in the image.



2. Use transformations to prove that the figures are congruent.



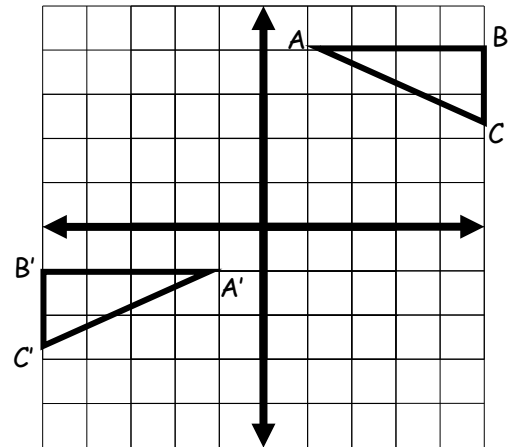
3. Use transformations to prove that the two figures are similar. Shape A is the original image.



4. Triangle ABC is **reflected** over the y-axis and then **translated** down 5 units to create triangle A'B'C'.

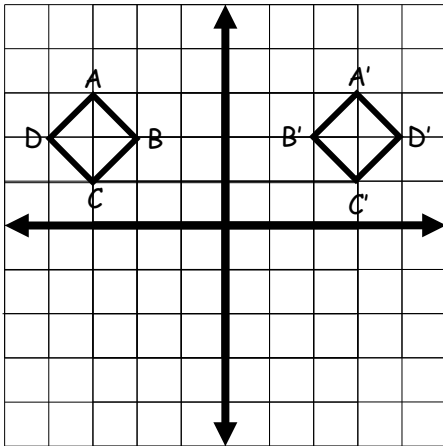
Determine whether each statement below is true or false.

Statements	True	False
Angle C has the same measure as angle C'		
Side AC is the same length as side A'C'		
Side BC is shorter than side B'C'		

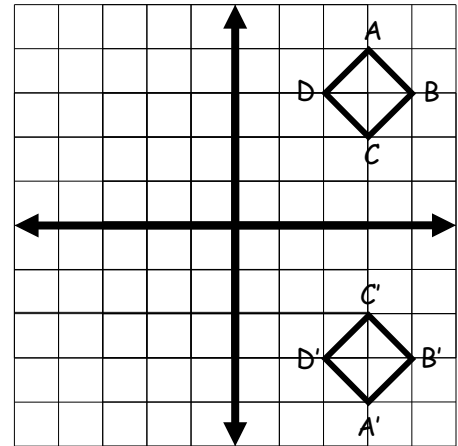


5. Which picture shows a **rotation** of rhombus ABCD? (Fill in the bubble to the left of the picture that you believe shows a rotation.)

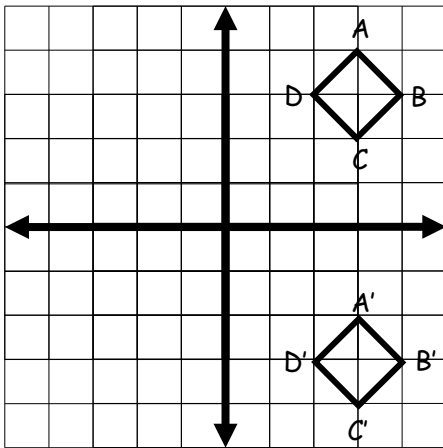
A. ☐



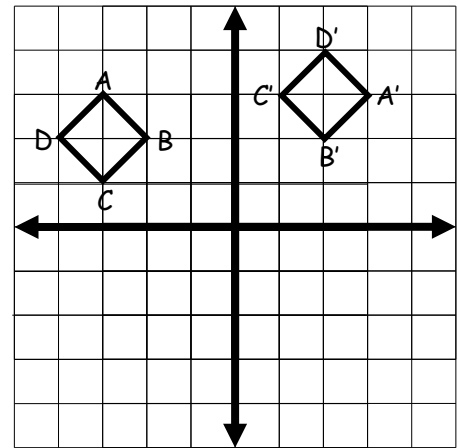
B. ☐



C. ☐



D. ☐



Chapter 2: Math 8 - Expressions and Equations (EE)
Proportional vs. Linear Relationships (8.EE.5, 8.EE.6)

Name _____

Date _____ Class Period _____

Determine whether or not the following relationships are proportional.

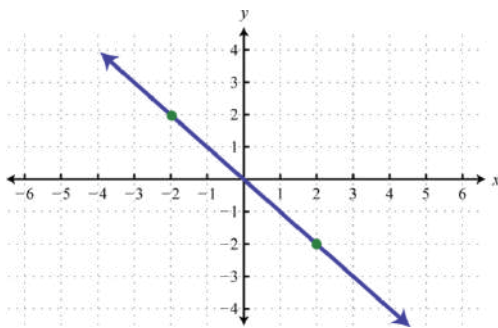
1. Is the relationship proportional? Yes / No

x	y
-2	1
-1	3
0	5
1	7
2	9

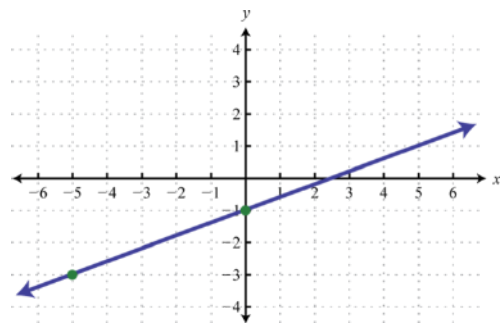
2. Is the relationship proportional? Yes / No

x	y
-2	-8
-1	-4
0	0
1	4
2	8

3. Is the relationship proportional? Yes / No



4. Is the relationship proportional? Yes / No

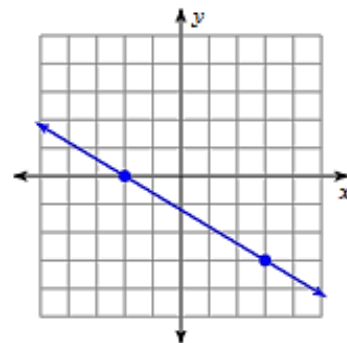


Calculate the slope for each of the following. Leave answer as a fraction. Show your work!

5. Slope = _____

x	y
5	2
11	6
17	10
23	14

6. Slope = _____

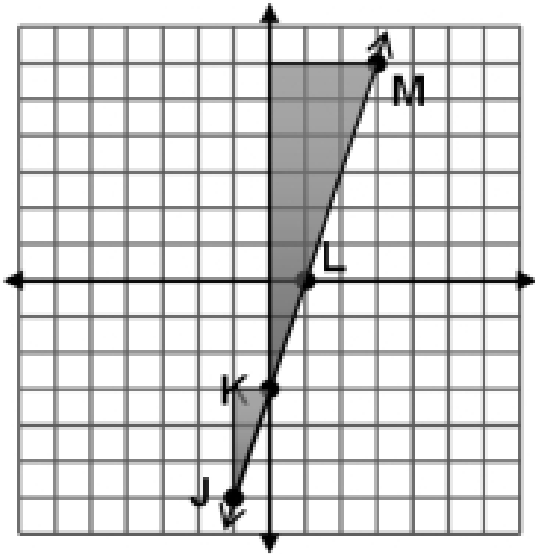


7. Slope = _____

Through the points: (3, 6) and (-2, 12)

Calculate the slope of the line using...

8. Points K and M



9. Points J and K

8. If the three turtles moved according to the data given, in what order would they finish a race?

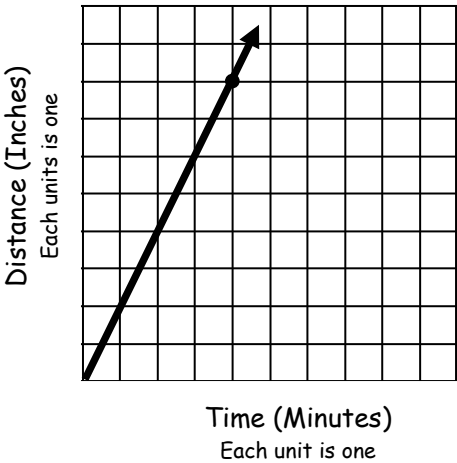
Turtle 1: 32 inches every 12 minutes

1st Place: _____

Turtle 2:

2nd Place: _____

3rd Place: _____



Turtle 3:

Time (min)	Distance (in)
4	15
12	27
20	39

Chapter 3: Math 8 - Functions (F)
Slope-Intercept Form (8.F.4)

Name _____
Date _____ Class Period _____

Identify the slope and y-intercept for each equation.

1. $y = -2x + 4$

Slope = _____

Y-Intercept = _____

2. $y = 10 - 5x$

Slope = _____

Y-Intercept = _____

3. $y = \frac{5}{2}x$

Slope = _____

Y-Intercept = _____

4. $y = \frac{2}{3} + 6x$

Slope = _____

Y-Intercept = _____

Write the equation in slope-intercept form of the line with the given slope and y-intercept.

5. Slope = -3 Y-Intercept = 1

Equation: _____

6. Slope = $\frac{4}{9}$ Y-Intercept = -2

Equation: _____

Write an equation in slope-intercept form for each of the following linear relationships.

7. Equation: _____

x	y
2	1
4	5
6	9
8	13

8. Equation: _____

x	y
-1	-1
0	4
1	9
2	14

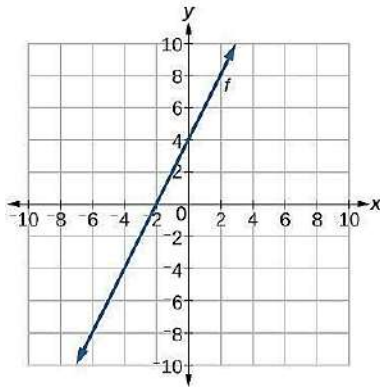
9. Equation: _____

Through the points (-1, 1) and (-3, 5)

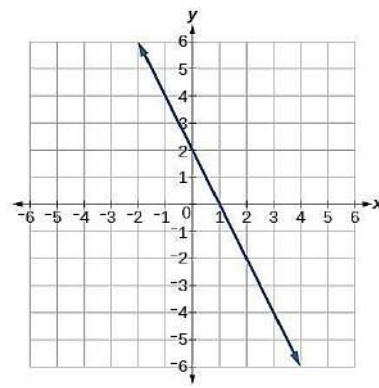
10. Equation: _____

A swimming pool with 1400 gallons of water is emptied at a rate of 250 gallons every 5 hrs.

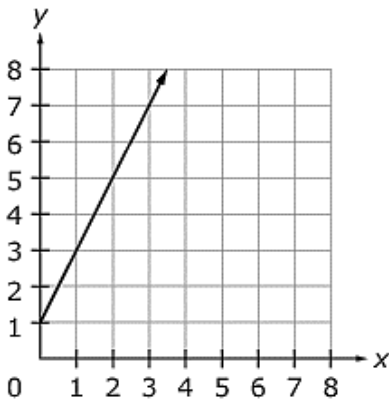
11. Equation: _____



12. Equation: _____



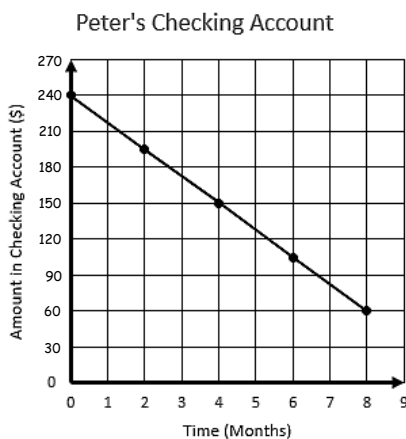
13. Jeremy wrote the equation $y = 1 - 2x$ based on the graph below.



Why is Jeremy's equation incorrect?

- A. The slope of the graph is 2
- B. The y-intercept of the graph is 0
- C. The slope of the graph is negative
- D. The y-intercept of the graph is -2 and the slope is 1

14. Peter has a checking account that he uses to pay for his monthly subscription to Netflix. The graph below represents the total amount of money in his account after each month.



a. What is the slope of the line? _____

What does the slope mean in the context of the situation?

b. What is the y-intercept of the line? _____

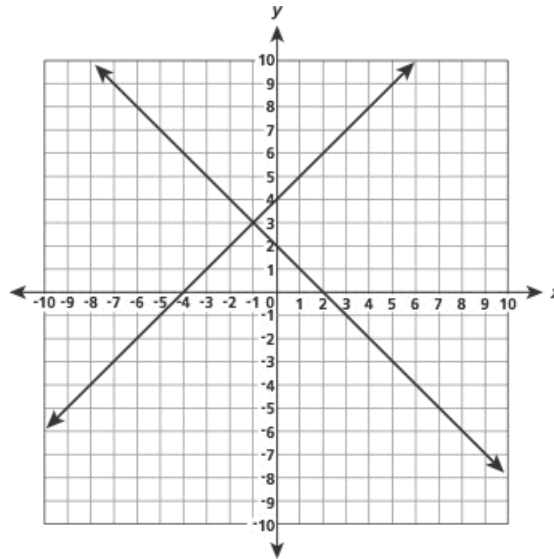
What does the y-intercept mean in the context of the situation?

Chapter 4: Math 8 - Expressions and Equations (EE)
Systems of Linear Equations Day 1 (8.EE.8)

Name _____
Date _____ Class Period _____

Find the solution point.

1. Solution: (_____ , _____)



Determine whether the given point is a solution to the given system of linear equations. Show ALL your work.

2. Two lines are graphed on the same coordinate plane. The lines only intersect at the point (2, 5). Which of these systems of linear equations could represent the two lines? Select ALL that apply.

A. $x = y - 2$
 $y = 2x + 1$

B. $x = 2$
 $y = 5$

C. $x = 2y - 8$
 $y = 3x - 1$

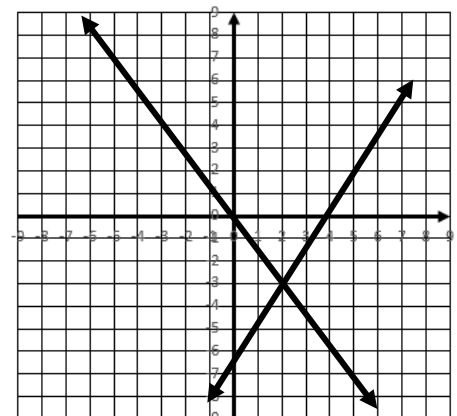
D. $x = 3 + y$
 $y = 2 + x$

E. $y = 4x - 3$
 $y = 2x + 1$

F. $y = x + 3$
 $x + y = 7$

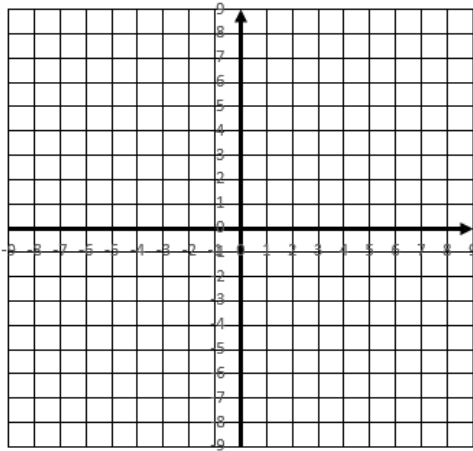
3. Michelle was asked to graph a system of two linear equations that has a single solution of (-2, 3). She created the graph to the right.

Describe Michelle's error. _____



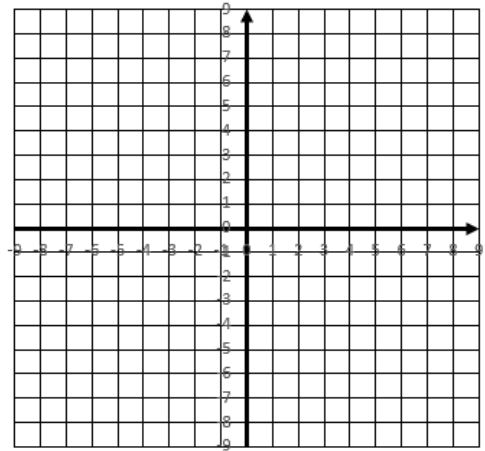
Solve the following systems of linear equations by graphing.

4. $y = -\frac{1}{2}x + 3$
 $y = 2x - 2$



Solution: (_____ , _____)

5. $x - y = -4$
 $y = 3x + 2$

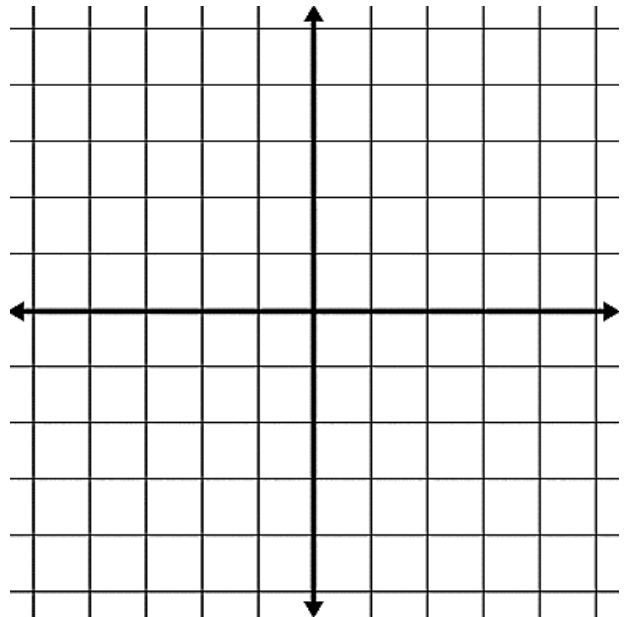


Solution: (_____ , _____)

5. The solution of a system of two linear equations is (4, -2). On the coordinate grid, graph two lines that could be the graphs of the two linear equations in the system. Then write an equation for each line.

Equation 1: _____

Equation 2: _____



Chapter 4: Math 8 - Expressions and Equations (EE)
Systems of Linear Equations Day 2 (8.EE.8)

Name _____
 Date _____ Class Period _____

1. Determine whether the following systems of linear equations will have one solution, no solution, or infinitely many solutions.

System of Linear Equations	No Solution	One Solution	Infinitely Many Solutions	System of Linear Equations	No Solution	One Solution	Infinitely Many Solutions
$y = -5x + 4$ $y = -5x - 2$				$y = -2x + 7$ $y = x + 3$			
$y = -\frac{2}{3}x + 4$ $2x + 3y = 12$				$y = \frac{1}{2}x + 5$ $-4x + 6y = 30$			

Solve each system using the substitution method. Show ALL your work.

2. $y = 2x + 6$
 $y = -4x - 6$

3. $y = -3x - 9$
 $-4x + y = 12$

Solution: (_____ , _____)

Solution: (_____ , _____)

Solve each system using the elimination method. Show ALL your work.

2. $x + 2y = -10$
 $-x + 2y = 2$

3. $2x - 4y = 6$
 $3x + 4y = 9$

Solution: (_____ , _____)

Solution: (_____ , _____)

9. A system of two linear equations has **INFINITELY MANY SOLUTIONS**. If the first equation is $y = -2x + 4$, then what would be the second equation?

- A. $2x - y = 4$ B. $2x + y = 4$ C. $4x - y = 10$ D. $4x + y = 8$

10. Select the statement that correctly describes the solution to this system of equations.

$$y = -2x + 3$$

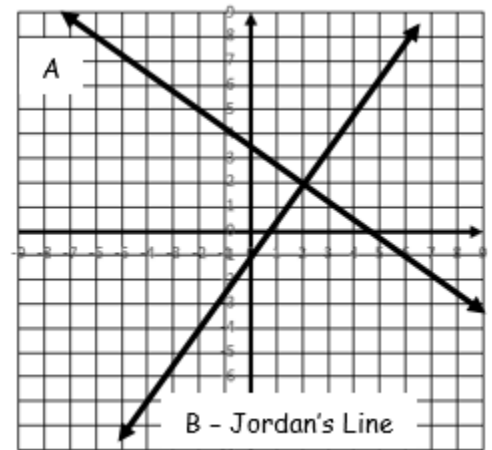
$$x - 3y = -2$$

- A. There is no solution
B. There are infinitely many solutions
C. There is exactly one solution at $(-2, 3)$
D. There is exactly one solution $(1, 1)$

11. Line A is shown on the coordinate grid. Jordan was asked to construct line B so that:

- Line A and line B represent a system of linear equations with a solution at $(2, 2)$
- The slope of line B is less than 1
- The slope of line B is greater than zero
- The y-intercept of line B is negative

Does Jordan's line meet the above requirements? Explain why or why not?



13. Xavier and Carlos have a bet to see who can get more "friends" on a social media site after 1 month. Carlos has 10 more friends than Xavier when they start the competition. After much work, Carlos doubles his amount of friends and Xavier triples his. In the end they have a total of 160 friends.

a. Write a system of equation that matches the verbal description given below if c = number of Carlos' friends and x = number of Xavier's friends.

Equation 1: _____

Carlos has 10 more friends than Xavier

Equation 2: _____

Carlos doubles his amount of friends and Xavier triples his. They have a total of 160 friends

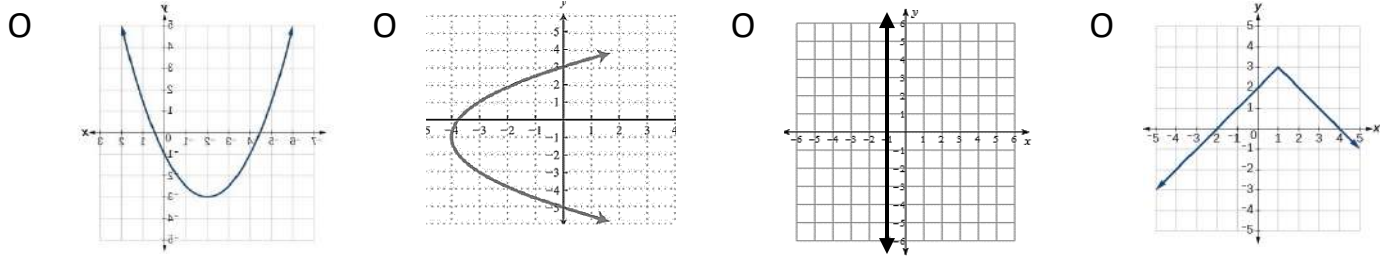
b. Solve the system.

After 1 month, Carlos has _____ friends and Xavier has _____ friends.

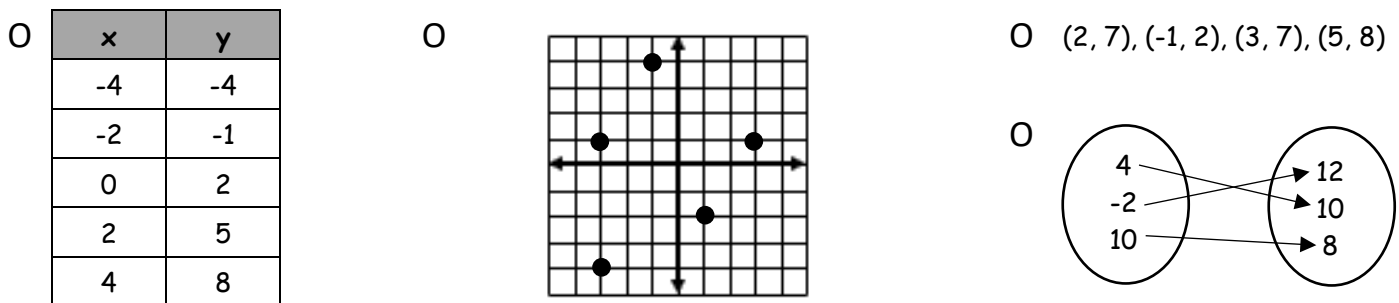
Chapter 5: Math 8 – Functions (F)
Defining and Evaluating Functions (8.F.1, 8.F.2, 8.F.3)

Name _____
 Date _____ Class Period _____

1. Which graphs represent **functions**? Select all that apply.



2. Which of the following relations represent functions? Select **all** that apply.



3. A relationship between x and y is defined by the equation $y = -\frac{1}{2}x + 7$, where x is the input and y is the output.
 Which statements about the relationship are true? Select **each** statement.

- ☐ The relationship is a function
- ☐ The graph of the relationship is a line
- ☐ When the input is 5, the output is 4
- ☐ When the input is -2, the output is 8
- ☐ The y -intercept of the relationship is (0, -7)
- ☐ The slope of this line is negative

4. Which of the following table of values can be defined by the function $y = 3x + 2$? Select **all** that apply.

☐

x	y
1	2
2	5
3	8

☐

x	y
4	14
6	20
8	26

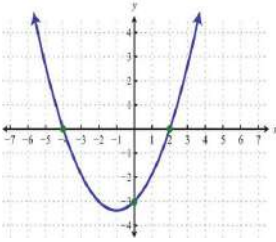
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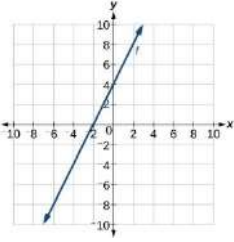
x	y
-3	-7
0	2
3	11

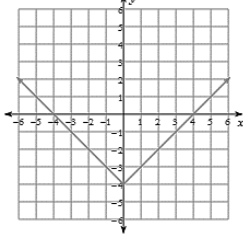
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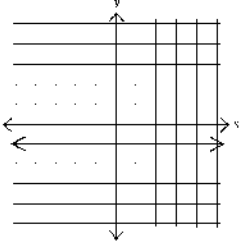
x	y
-5	-13
-3	-10
-1	-7

5. Which graphs are **linear**? Select all that apply.

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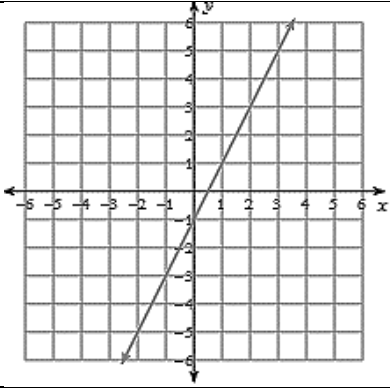
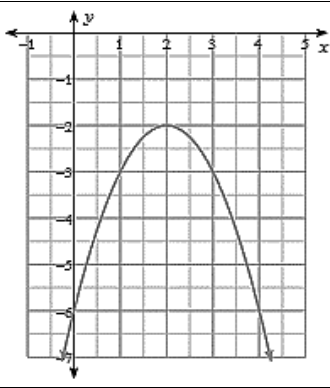
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6. Determine whether each statement about **linear relationships** is always, sometimes, or never true.

Statement	Always	Sometimes	Never
The equation $y = mx + b$ generates a linear graph			
Linear graphs are functions			
A diagonal line has a consistent rate of change			
A vertical line has a y-intercept			
There is a curve on a linear graph			

7. Use the graph at the right to answer the following questions?

Graph A	Graph B
If the input is 2, what is the output? _____ If the output is -5, what is the input? _____	If the input is 4, what is the output? _____ If the output is -2, what is the input? _____
	

8. Which equations represent linear functions? Select **all** that apply.

☐ $8x = 2.3y + 9$
☐ $y = 5x - 4^2$
☐ $y = 5 \cdot 2^x$

☐ $y = \frac{5}{x}$
☐ $y = 9 - \frac{x}{2}$
☐ $y = 6x^2 + 1$