



Algebra II

Monday
October 20, 2014Simplify: $|-7 + 2| - |-4|$

A 1

B 9

C -1

D -9





Algebra II
Warm Up

Monday
October 20, 2014

What is a System of
Linear Equations?

$$y = \underline{3}x + 4$$

$$y = \underline{3}x - 2$$



<p><u>Linear Equations and Inequalities:</u> The student will formulate and use linear equations and inequalities..</p>	<p>Name: _____ Date: _____ Period: _____ Topic: A.7B- <u>investigate methods for solving linear equations and inequalities using [concrete models], graphs, and the properties of equality, select a method, and solve the equations and inequalities;</u></p>
<p>Academic Language</p>	<p>Notes:</p>
<p>Standard form ($Ax + By = C$)</p>	
<p>Coordinate (ordered) pair (x, y)</p>	
<p>(x, y) as a solution set</p>	
<p>Substitution</p>	
<p>x as a solution</p>	

A.7B

Investigate methods for solving linear equations and inequalities using [concrete models], graphs, and the properties of equality, select a method, and solve the equations and inequalities;

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Part I

Substitute the given values of the coordinate pair (x, y) , or choose values for x and y to solve the *equation* or *inequality* from the following problem situations;

1. What is the value of y if $(2, y)$ is a solution to the equation $-7x = -11y + 8$?

What value of x is given in the problem?

$$x = 2$$

Substitute this value for x and solve the equation for y .

$$y = 2$$

2. For what value of x is $(x, -5)$ a solution for $4x - 3y = 27$?

What value of y is given in the problem?

Substitute this value for y and solve the equation for x .

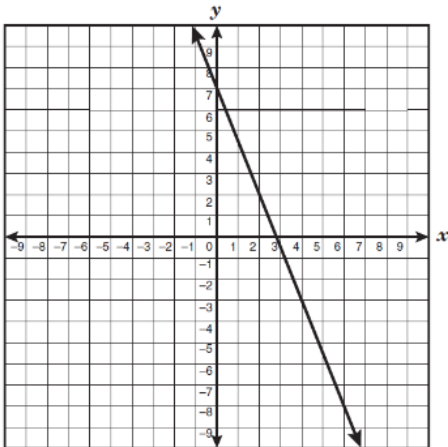
$$4x - 3(-5) = 27$$

EOC REVIEW Algebra 1

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Reporting Category 4

- 3 The graph of the linear equation $y = -\frac{5}{2}x + 7$ is shown below.



LESS
LESS
GREATER

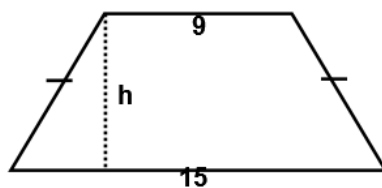
List two coordinate pairs that are in the solution set of $y < -\frac{5}{2}x + 7$?

- A (,)
- B (,)

List two coordinate pairs that are NOT in the solution set of $y < -\frac{5}{2}x + 7$?

- C (,)
- D (,)

- 4 The length of each leg of an isosceles trapezoid is 6 meters less than twice the length of the height. If the perimeter of this isosceles trapezoid is 40 meters, what is the length of the height? (use the measures given in the trapezoid below)

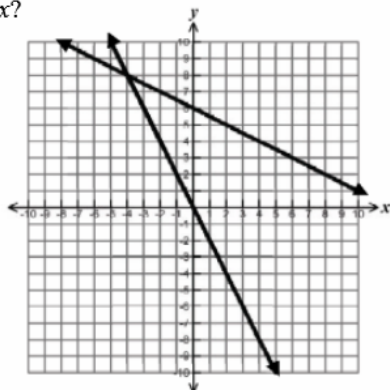


What is the length of each leg?

Part II

1 The graphs of the linear equation $y = -2x$ and $y = -0.5x + 6$ are shown below. If $-2x = -0.5x + 6$, what is the value of x ?

- F -1
- G -2
- H -4
- J -8



2 Which of the following ordered pairs is in the solution set of $y > x + 3$?

- A (-2, 1)
- B (-7, -2)
- C (5, 7)
- D (4, 5)

3 For what value of x is $(x, 7)$ a solution for $-4x + 2y = 26$?

- F 10
- G -3
- H 3
- J -10

4 Hockinson Auto Works charged Mr. Soohoo \$84.00 for an automotive part plus \$68.00 per hour that a mechanic worked to install the part. The total charge was \$353.00. For about how long did the mechanic work to install the part on Mr. Soohoo's car?

- A. 6 hours
- B. 5 hours
- C. 4 hours
- D. 3 hours

5 If $(x, -2.5)$ is a solution to the equation $6x - 3y - 9 = 0$, what is the value of x ?

- A. 2.25
- B. 1.75
- C. 0.25
- D. -8

6 The equation $F = \frac{9}{5}C + 32$ represents the relationship between F , the temperature in degrees Fahrenheit, and C , the temperature in degrees Celsius. If the temperature is 104°F , what is the temperature in degrees Celsius?

+	0	0	0	0	0	0	0
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9



Algebra II

Tuesday
October 21, 2014

Solve if you
are Genius !

$$8 = 56$$

$$7 = 42$$

$$6 = 30$$

$$5 = 20$$

$$3 = ?$$





Algebra II Warm Up

Tuesday
October 21, 2014

1. Which of the following ordered pairs is in the solution set of

$$y < 2x + 4$$

- A. (0,6)
- B. (-5,-1)
- C. (1,2)
- D. (2,9)

2. Determine which point is the solution of the system:

$$\begin{aligned} 2x &= 4y + 4 \\ y &= -1/2x + 5 \end{aligned}$$

- A. (3,4)
- B. (-5,1)
- C. (8,-7)
- D. (6,2)



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<p><i>Linear Equations and Inequalities:</i> The student will formulate and use linear equations and inequalities.</p>	<p>Name: _____ Date: _____ Period: _____ Topic: A.8B- solve systems of linear equations using [concrete] models, graphs, tables, and algebraic methods;</p>
<p>Academic Language</p>	<p>Notes:</p>
<p>Systems of Equations</p>	
<p>Intersection</p>	
<p>And</p>	
<p>Substitution Method</p>	
<p>Elimination Method</p>	

A.8B	solve systems of linear equations using [concrete] models, graphs, tables, and algebraic methods;
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Part I

The algebraic methods that we will use to solve systems are substitution and elimination. Graphing is also a method we can utilize to solve a system of equations. The solution of a system of equations is the intersection point on the graph, or the only ordered pair that belongs to the solution set of each individual equation.

First we will discuss the **substitution method**.

Solve the system using substitution.

$$y + 3x = 12$$

$$y = 4x + 5$$

Notice that the y variable is isolated in the second equation. Since y is by itself on the left side of the equation we can use $4x + 5$ to replace y in the first equation. By replacing y with an expression of x we are able to solve for x

$$(4x + 5) + 3x = 12$$

$$7x + 5 = 12$$

$$7x = 7$$

$$x = 1$$

Finish by replacing x with 1 in either original equation.

$$y + 3(1) = 12$$

$$y + 3 = 12$$

$$y = 9$$

$$y = 4(1) + 5$$

$$y = 4 + 5$$

$$y = 9$$

So, by the substitution method, the solution is $(1, 9)$.

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Now we will discuss the **elimination method**. This method requires that like terms are lined up vertically in the set up allowing the use of addition or subtraction.

Solve the system using elimination.

$$\begin{array}{r} 6x + 3y = -9 \\ + 2x - 3y = 17 \\ \hline 8x \quad = 8 \\ x = 1 \end{array}$$

Notice the x and y terms are lined up vertically

Since $3y$ and $-3y$ are additive inverses they are eliminated when we add vertically.

Finish by substituting the value of x into either original equation and solve it for y .

$$6(1) + 3y = 9$$

$$2(1) - 3y = 17$$

$$6 + 3y = 9$$

$$2 - 3y = 17$$

$$3y = -15$$

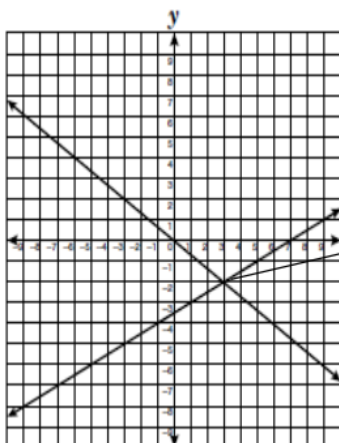
$$-3y = -15$$

$$y = -5$$

$$y = -5$$

So by the elimination method the solution is $(1, -5)$.

You can also solve a system of linear equations by **graphing** or using a **table of values**. When you graph a system of linear equations the point at which the lines intersect is the solution to the system. If the lines do not intersect, then the system has no solution. The lines can also intersect at all points, thus the system will have infinitely many solutions. On a table of values the coordinate pair that is the same in both tables is the solution to the system.



Solution:
 $(3, -2)$

X	Y	X	Y
-2	-9	-2	24
-1	-5	-1	19
0	-2	0	14
1	1	1	9
2	4	2	4
3	7	3	-1

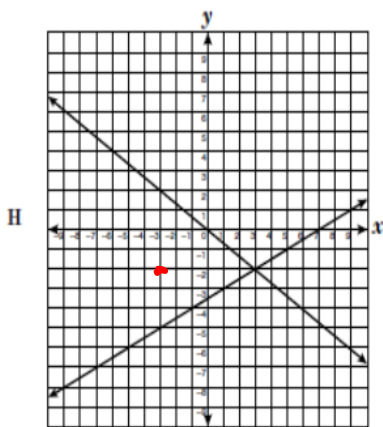
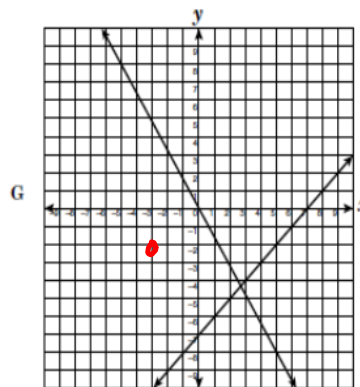
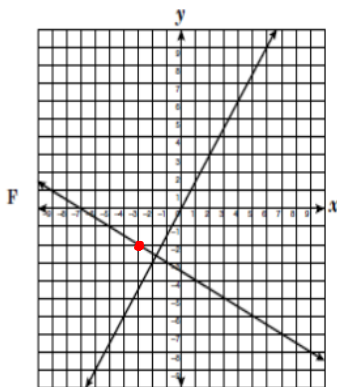
Solution:

$(2, 4)$

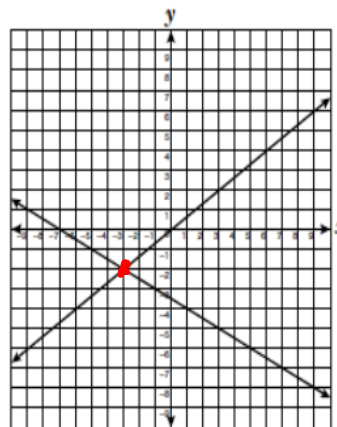
Part II

1. Which graph best represents a solution to this system of equations?

$$\begin{aligned} 2x - 3y &= 0 \\ x + 2y &= -7 \end{aligned}$$



J



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Reporting Category 4

2. What is the x-coordinate of the solution to the system of linear equations below?

$$4x + 5y = 8$$

$$2x - 3y = -18$$

- F -4
- G -3**
- H 3
- J 4

$(-3, 4)$
 \bar{x} \bar{y}

3. A large cheese pizza at Palanzio's Pizzeria costs \$6.80 plus \$0.90 for each topping. The cost of a large cheese pizza at Guido's Pizza is \$7.30 plus \$0.65 for each topping. How many toppings need to be added to a large cheese pizza from Palanzio's Pizzeria and Guido's Pizza in order for the pizzas to cost the same, not including tax?

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4. Which of the following is the solution for this system of linear equations?

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

$$3x - y = -13$$

- F $(\frac{17}{3}, 4)$
- G $(-1, \frac{8}{3})$
- H $(-3, 4)$**
- J $(-3, -4)$

$(-3, 4)$

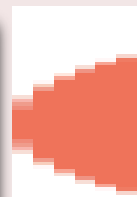
5. Some students want to order shirts with their school logo. One company charges \$9.65 per shirt plus a setup fee of \$43. Another company charges \$8.40 per shirt plus a \$58 fee. For what number of shirts would the cost be the same?

- A 6
- B 12
- C 81
- D 159



Algebra II

Wednesday
October 22, 2014



If you truly want the Universe to be your Playground
DO YOUR MATH HOMEWORK!





Algebra II Warm Up

Wednesday
October 22, 2014

1. Determine which point is the solution of the system:

$$\begin{aligned}3x &= 6y - 3 \\ y &= \frac{1}{2}x + 3\end{aligned}$$

- A. (2,4)
- B. (-5,1)
- C. Infinite Solutions
- D. No Solution

2. Determine which point is the solution of the system:

$$\begin{aligned}y &= 4x + 2 \\ y &= 2x - 2\end{aligned}$$

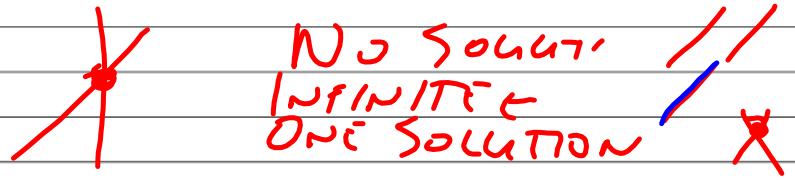
- A. (3,4)
- B. (-2,-6)
- C. (2,3)
- D. (-6,2)



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EOC REVIEW Algebra 1

Reporting Category 4

<p><u>Linear Equations and Inequalities:</u> The student will formulate and use linear equations and inequalities.</p>	<p>Name: _____ Date: _____ Period: _____ Topic: <u>A.8C – interpret and determine the reasonableness of solutions to systems of linear equations.</u></p>
<p>Academic Language</p>	<p>Notes:</p>
<p>Systems of Equations</p>	
<p>Solution Set</p>	
<p>Intersection</p>	
<p>Conclusion</p>	
<p>A.8C</p>	<p>Interpret and determine the reasonableness of solutions to systems of linear equations.</p>

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EOC REVIEW Algebra 1

Reporting Category 4

Part I

The solution(s) to a system of equations is/are the ordered pairs that satisfy both equations. In other words, the intersection of the solution sets of each equation. Remember that intersection means only the elements that belong to both sets.

There are many methods you can use to solve a system. You can choose the graphing, substitution, or elimination method to solve a system.

Example 1: Determine which point is the solution of $y = 5 - 3x$
 $3y = -2x + 1$

- a). (1,2) b). (0,-5) c). (1,-1) d). (2,-1)

The system is set up for the substitution method. In other words, one of the equations can be substituted into the other. In this case, $y = 5 - 3x$ can easily be substituted into $3y = -2x + 1$.

$3(\quad) = -2x + 1$

$l = 2 + 3w$

Example 2: The perimeter of a flower garden is 44 feet. The length is 2 feet more than three times its width.

First use the formula chart: $P = 2L + 2W$



Use the second sentence of the problem to write an expression of the length in terms of the width.

"The length is 2 feet more than three times its width" translates into

$L = 2 + 3W$

Using 2 substitutions rewrite the perimeter formula and solve:

$(\quad) = 2(\quad) + 2W$

$44 = 2x + 2y$
 $y = 2 + 3x$

$x = l$
 $y = w$

$P = l + l + w + w$
 ~~$44P = 2l + 2w$~~
 $l = 2 + 3w$

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EOC REVIEW Algebra 1

Reporting Category 4

Part II

1. A certain video rental store rents video games for \$4.99 and movie videos for \$2.99. One day the store rented a total of 35 video games and movie videos. If the total rental income for this day was \$144.65, not including tax, which of the following statements is a reasonable conclusion?

- F There were more video games than movie videos rented on this day.
- G There were more movie videos than video games rented on this day.
- H The total rental income for movie videos on this day was \$99.80, not including tax.
- J The total rental income for video games on this day was \$74.85, not including tax.

2. Maricella has a bag containing 35 nickels and quarters. The total value of these coins is less than \$2.50. What is the maximum number of quarters that meets these conditions?

~~F 10~~

G 4

H 3

~~J 9~~

$$x + y = 35$$

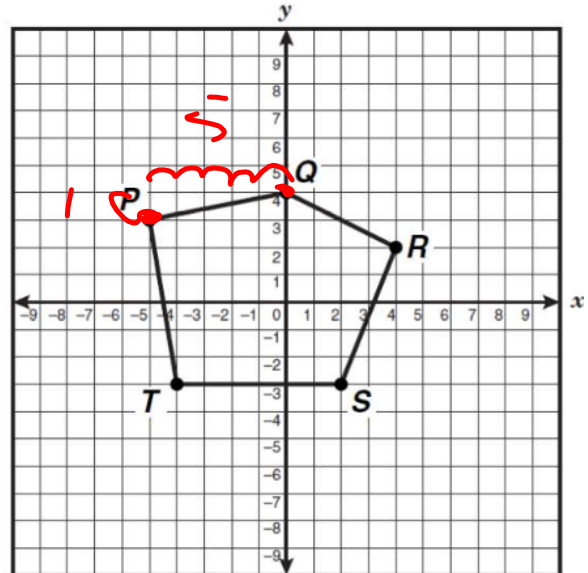
$$.05x + .25y = 2.50$$

$$(31.25, 3.75)$$

3. Mrs. Travis wants to have a clown deliver balloons to her secretary's office. Clowns R Fun charges \$1.25 per balloon and \$6 for delivery. Singing Balloons charges \$1.95 per balloon and \$2 for delivery. What is the minimum number of balloons Mrs. Travis needs to purchase in order for Clowns R Fun to have a lower price than Singing Balloons?
- A 5
- B 6
- C 11
- D 12

Name _____ Period _____ Date _____
 Quiz #3

Pentagon PQRST is graphed on the coordinate grid below. What is the slope and the linear function describing a line that would include the following edges of the pentagon:



Handwritten red notes:
 P 0.5
 N 1.5
 Z 4.5
 U 1.5

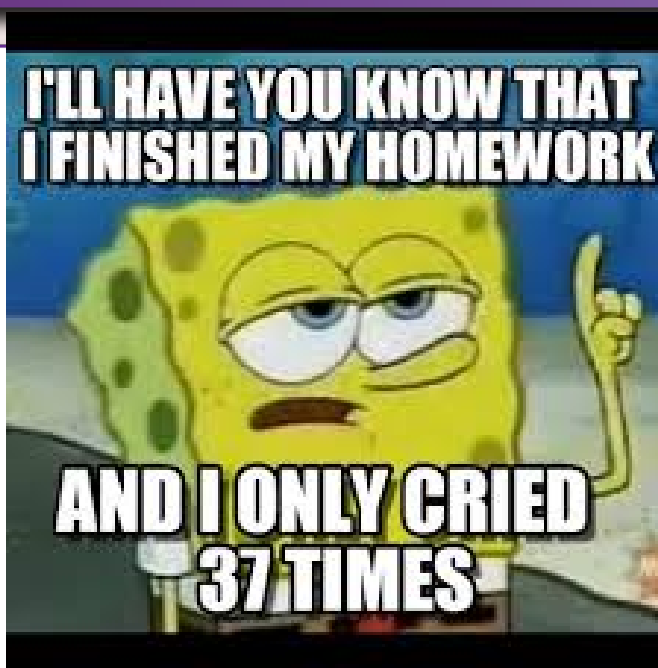
- A Segment RS _____
- B Segment PT _____
- C Segment PQ $\frac{1}{5}$ $\frac{1}{5}$ _____
- D Segment TS _____
- E Segment QR _____



Algebra II

Friday

October 24, 2014





Algebra II Warm Up

Friday
October 24, 2014

1. Determine which point is the solution of the system:

$$\begin{aligned}3x - y &= -13 \\ y &= -\frac{2}{3}x + 2\end{aligned}$$

- A. (-3, -4)
- B. (17/3, 4)
- C. (-1, 8/3)
- D. (-3, 4)

2. Determine which point is the solution of the system:

$$\begin{aligned}y &= -\frac{1}{3}x + \frac{1}{3} \\ x - 3y &= 8\end{aligned}$$

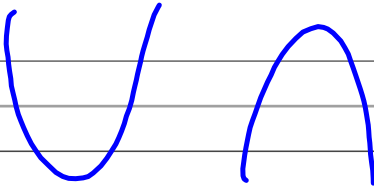

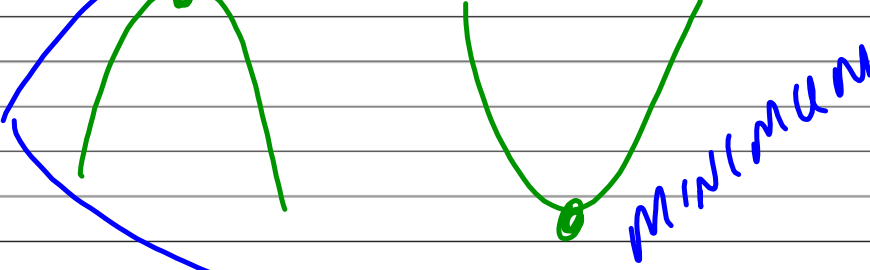
- A. (3, 4)
- B. (-2, -6)
- C. No Solution
- D. Infinite Solutions



End of Course Algebra 1

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Reporting Category 5

<p><i>Quadratic and Other Nonlinear Functions:</i> The student will demonstrate an understanding of quadratic and other nonlinear functions.</p>	<p>Name: _____ Date: _____ Period: _____ Topic: A.9B- investigate, describe, and predict the effects of changes in a on the graph of $y = ax^2 + c$;</p>
<p>Academic Language</p>	<p>Notes:</p>
<p>Quadratic parent function, $y = x^2$</p>	
<p>Parabola, $y = ax^2 + c$</p>	
<p>Translate</p>	
<p>Coefficient</p>	
<p>Vertex</p>	
<p>Reflection</p>	

End of Course Algebra 1

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Reporting Category 5

A.9B	Investigate, describe, and predict the effects of changes in a on the graph of $y = ax^2 + c$.

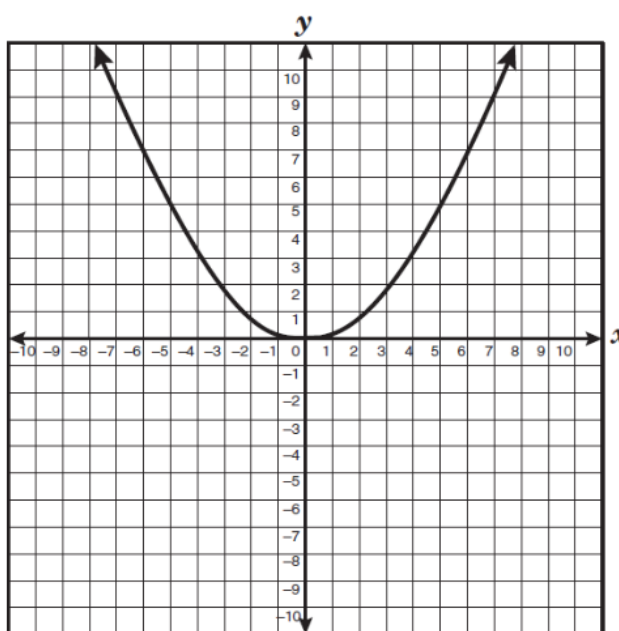
Part I

Follow the instructions in each problem below: (use colored pencils if available)

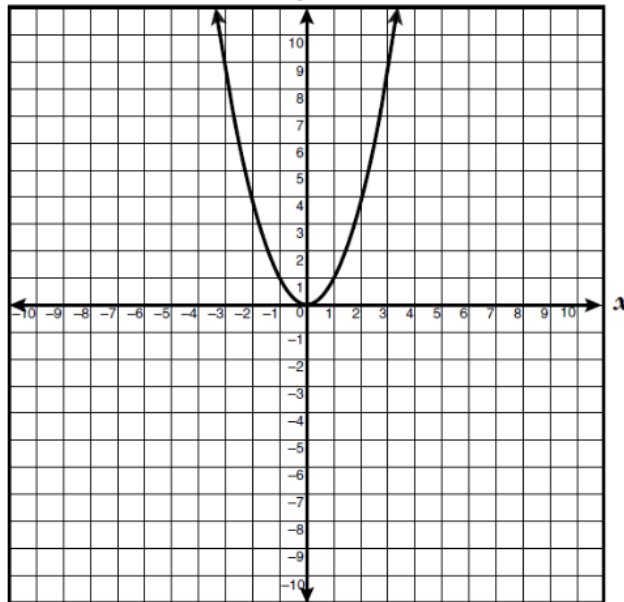
- 1 The graph of $y = 0.2x^2$ is shown.

Label each of the following equations below as “wider” or “narrower” than the graph of $y = 0.2x^2$ and then graph each to the right to check your work.

- A $y = 0.5x^2$ Narrower
- B $y = 3x^2$ Narrower
- C $y = 0.1x^2$ Wider
- D $y = 2x^2$ Narrower
- E $y = 0.3x^2$ Narrower



2 The graph of the function $y = ax^2 + c$ is given below where $a = 1$ and $c = 0$.



$y = |x^2 + 0$
 $y = x^2$

How will the graph be affected if the coefficient of x^2 is decreased to 0.2?

$y = 0.2x^2$ W

How will the graph be affected if the coefficient of x^2 is increased to $5/2$?

N

How will the graph be affected if the coefficient of x^2 is increased to 4?

N

How will the graph be affected if the coefficient of x^2 is decreased to $1/3$?

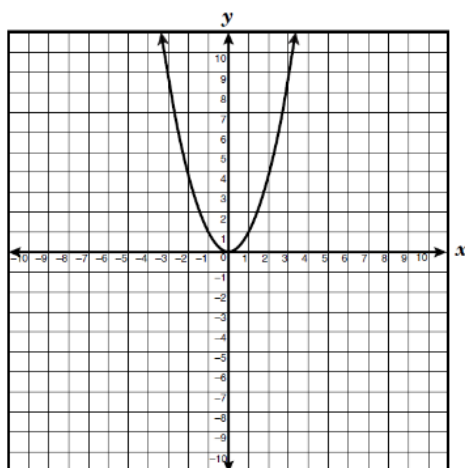
W

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End of Course Algebra 1

Reporting Category 5

- 3 The graph of the parent function $y = x^2$ is given below.



How will the graph be affected if the coefficient of x^2 is decreased to $1/5$?

W

How will the graph be affected if the coefficient of x^2 is decreased to $-1/5$?

~~W~~ R W

What will be the change to the parent function if the coefficient of x^2 is changed to 3?

N

What will be the change to the parent function if the coefficient of x^2 is changed to -3?

N

End of Course Algebra 1

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Reporting Category 5

Part II

1 What is the effect on the graph of the equation $y = -4x^2$ when the equation is changed to $y = 4x^2$?

A The graph of $y = 4x^2$ is translated 8 units down.

B The graph of $y = 4x^2$ is a reflection of $y = -4x^2$ across the x -axis.

~~C The graph of $y = 4x^2$ is~~

~~D The graph of $y = 4x^2$ is a reflection of $y = -4x^2$ across the y -axis.~~

2 The graph of a function $y = x^2$ is shown below. How will the graph be affected if the coefficient of x^2 is decreased to $\frac{1}{4}$?

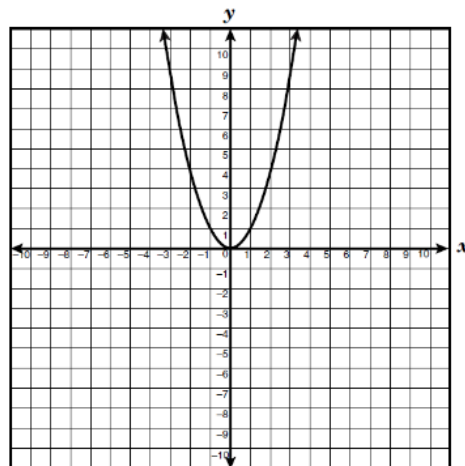
F The parabola will be wider.

~~G The parabola will be narrower.~~

~~H The parabola will be translated up.~~

~~I The parabola will be translated down.~~

$$y = \frac{1}{4}x^2$$



3 Which of the following functions of the form $y = ax^2$ produces the widest graph and opens upward?

~~A $y = -\frac{1}{4}x^2$~~

B $y = \frac{6}{5}x^2$

~~C $y = -\frac{4}{3}x^2$~~

D $y = \frac{7}{3}x^2$

End of Course Algebra 1

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Reporting Category 5

-
- 4 Which statement describes what happens to the graph of $y = ax^2$ when the value of a is changed from 1 to 6?
- F The graph translates 6 units up.
 - G The graph translates 6 units to the right.
 - H The graph narrows.
 - J The graph widens.
- 5 Which lists the functions of the form $y = ax^2$ in order from the widest to the narrowest graph?
- A $y = \frac{7}{3}x^2$, $y = \frac{2}{3}x^2$, $y = \frac{1}{2}x^2$, $y = 2x^2$
 - B $y = \frac{1}{2}x^2$, $y = \frac{2}{3}x^2$, $y = 2x^2$, $y = \frac{7}{3}x^2$
 - C $y = \frac{7}{3}x^2$, $y = 2x^2$, $y = \frac{1}{2}x^2$, $y = \frac{2}{3}x^2$
 - D $y = 2x^2$, $y = \frac{7}{3}x^2$, $y = \frac{1}{2}x^2$, $y = \frac{2}{3}x^2$
- 6 How does the graph of $y = 7x^2$ differ from the graph of $y = \frac{1}{7}x^2$?
- F The vertex of the graph of $y = 7x^2$ is 7 units higher.
 - G The vertex of the graph of $y = 7x^2$ is 7 units lower.
 - H The graph of $y = 7x^2$ is wider.
 - J The graph of $y = 7x^2$ is narrower.
- 7 The formula for the volume of a cylinder with a height of 5 units can be represented a $y = 5\pi x^2$, where x represents the radius. If the cylinder's height is tripled, what is the effect on the graph of y as function of x ?
- A The graph is translated up.
 - B The graph remains the same.
 - C The graph becomes narrower.
 - D The graph becomes wider.

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Reporting Category 5

8 How does the graph of $y = -\frac{3}{4}x^2$ differ from the graph of $y = \frac{4}{3}x^2$?

F The graph of $y = -\frac{3}{4}x^2$ opens downward and is wider than the graph of $y = \frac{4}{3}x^2$.

G The graph of $y = -\frac{3}{4}x^2$ opens upward and is wider than the graph of $y = \frac{4}{3}x^2$.

H The graph of $y = -\frac{3}{4}x^2$ opens upward and is narrower than the graph of $y = \frac{4}{3}x^2$.

J The graph of $y = -\frac{3}{4}x^2$ opens downward and is narrower than the graph of $y = \frac{4}{3}x^2$.

9 Barbara graphs a family of equations of the form $y = ax^2 + 1$. How does each new graph compare to the previous graph as Barbara increases the value of a from $\frac{1}{2}$ to 1 to $1\frac{1}{2}$ and finally to 2?

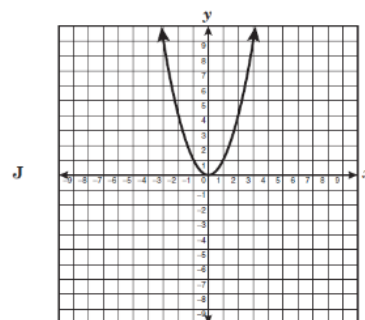
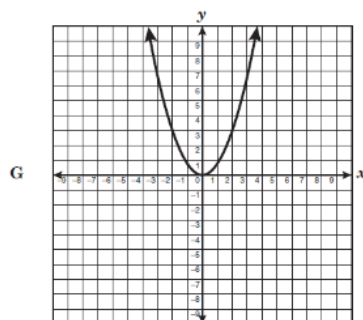
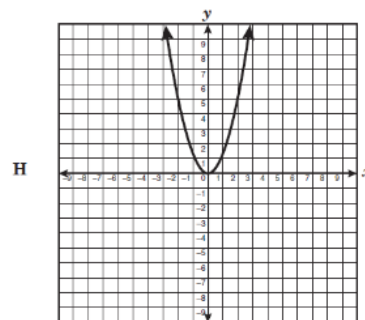
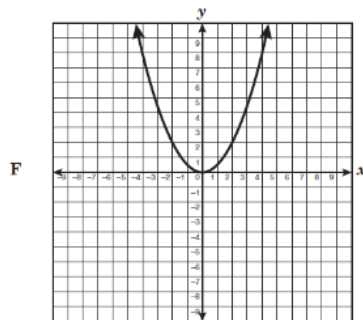
A Each new graph is above the previous graph.

B Each new graph is wider than the previous graph.

C Each new graph is narrower than the previous graph.

D Each new graph is to the right of the previous graph.

10 The graphs below represent functions on the form $y=ax^2$. In which of the following graphs does a have the smallest value?



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Reporting Category 5

<p><i>Quadratic and Other Nonlinear Functions:</i> The student will demonstrate an understanding of quadratic and other nonlinear functions.</p>	<p>Name: _____ Date: _____ Period: _____ Topic: A.9C- investigate, describe, and predict the effects of changes in c on the graph of $y = ax^2 + c$;</p>
<p>Academic Language</p>	<p>Notes:</p>
<p>Parabola, $y = ax^2 + c$</p>	
<p>Quadratic parent function, $y = x^2$</p>	
<p>Translate</p>	
<p>c, the constant of the parabola</p>	

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Reporting Category 5

A.9C	Investigate, describe, and predict the effects of changes in c on the graph of $y = ax^2 + c$.

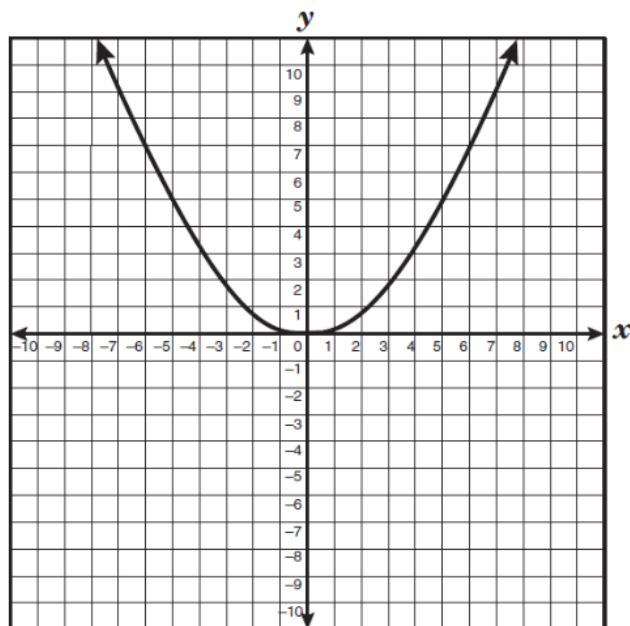
Part I

Follow the instructions in each problem below: (use colored pencils if available)

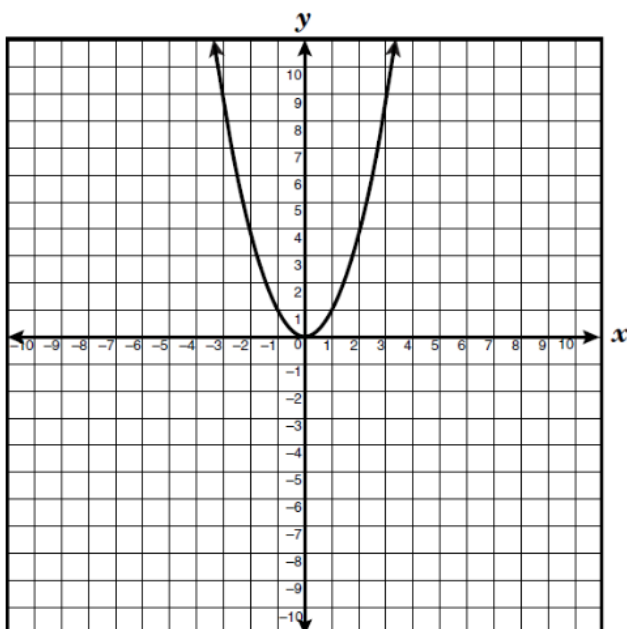
- 1 The graph of $y = 0.2x^2$ is shown.

Label each of the following equations below as “shifted up” or “shifted down” from the graph of $y = 0.2x^2$ and then graph each to the right to check your work.

- A $y = 0.2x^2 + 1.4$ _____
- B $y = 0.2x^2 - \frac{2}{3}$ _____
- C $y = 0.2x^2 + 1$ _____
- D $y = 0.2x^2 - 6$ _____
- E $y = 0.2x^2 + 4$ _____



- 2 The graph of the function $y = ax^2 + c$ is given below where $a = 1$ and $c = 0$.



How will the graph be affected if the value of c is decreased to -2.5 ?

_____.

How will the graph be affected if the value of c is increased to $2/5$?

_____.

How will the graph be affected if the value of c is changed to 4?

_____.

How will the graph be affected if the value of c is changed to $-1/3$?

_____.

Part II

- 1 In the graph of the function $y = x^2 - 3$, which describes the shift in the vertex of the parabola if, in the function, -3 is changed to 5.

A 2 units down

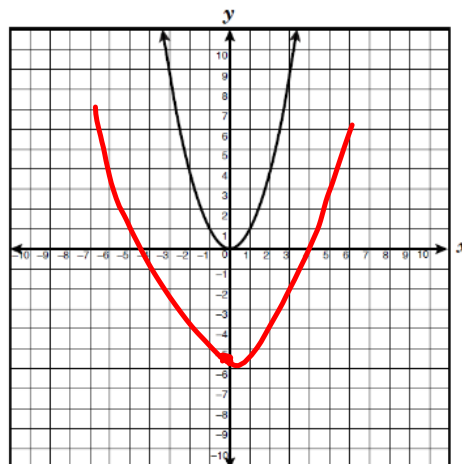
B 2 units up

C 8 units down

D 8 units up

$$y = x^2 + 5$$

- 2 The graph of a function $y = x^2$ is shown below. If the graph is shifted 5 units down, which of the following equations best represents the translation of each point on the curve?

F $y = x^2 - 5$ G $y = 5x^2 + 1$ H $y = 5x^2 - 1$ J $y = x^2 + 5$ 

- 3 How would the function $y = x^2 + 9$ be affected if the function were changed to $y = x^2 - 2$?

A The graph would shift up 11 units.

B The graph would shift down 11 units.

C The graph would shift right 11 units.

D The graph would shift left 11 units.

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Reporting Category 5

4 How does the graph of $y = 7x^2 + 2$ differ from the graph of $y = 7x^2 - 6$?

F The graph of $y = 7x^2 + 2$ is shifted to the right of the graph of $y = 7x^2 - 6$.

G The graph of $y = 7x^2 + 2$ is shifted up from the graph of $y = 7x^2 - 6$.

H The graph of $y = 7x^2 + 2$ is wider than the graph of $y = 7x^2 - 6$.

J The graph of $y = 7x^2 + 2$ is narrower than graph of $y = 7x^2 - 6$.

5 Which function is 5 units above the graph of $y = x^2 - 3$?

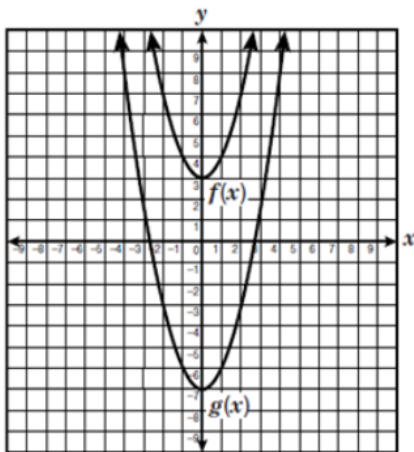
A $y = x^2 + 5$

B $y = x^2 - 2$

C $y = x^2 + 2$

D $y = x^2 - 8$

6 The graphs of $f(x)$ and $g(x)$ are shown on the grid below. If $f(x) = x^2 + 3$, what is the equation for $g(x)$?



F $y = x^2 + 7$

G $y = x^2 + 2.5$

H $y = x^2 - 4$

J $y = x^2 - 7$

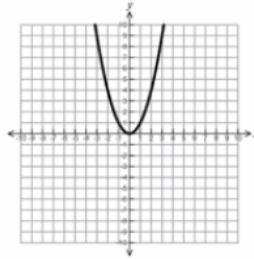
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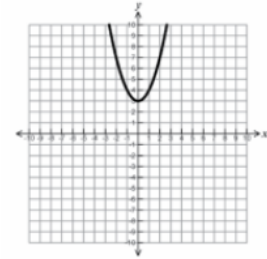
Reporting Category 5

- 7 Which graph shows a function $y = x^2 + c$ when $c > 1$?

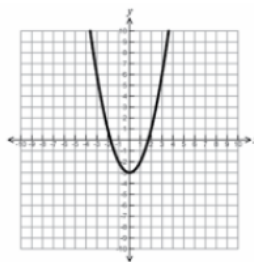
A.



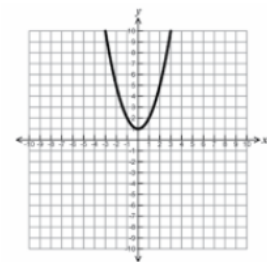
C.



B.



D.



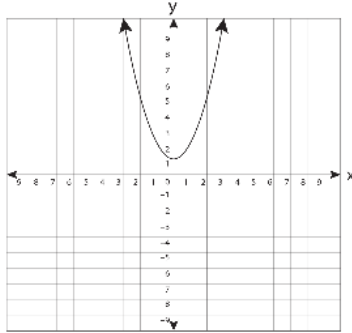
- 8 If $c = -5$, how does the graph of $y = x^2 + 2c$ compare to the graph of $y = x^2 + c$?
- F The graph of $y = x^2 + 2c$ is below the graph of $y = x^2 + c$.
- G The graph of $y = x^2 + 2c$ is above the graph of $y = x^2 + c$.
- H The graph of $y = x^2 + 2c$ is narrower than the graph of $y = x^2 + c$.
- J The graph of $y = x^2 + 2c$ is above the graph of $y = x^2 + c$.

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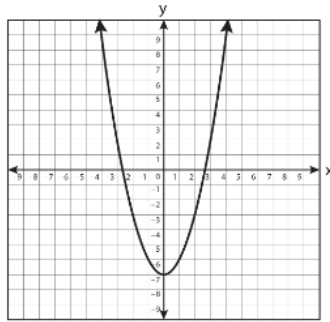
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Reporting Category 5

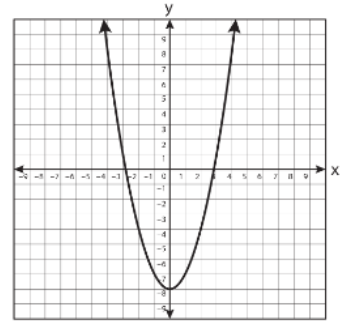
- 9 The graph of a function is shown below. If the graph is translated 6 units down, which of the following best represents the resulting graph?



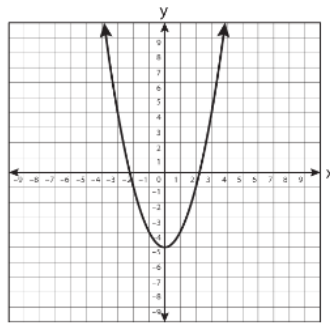
A



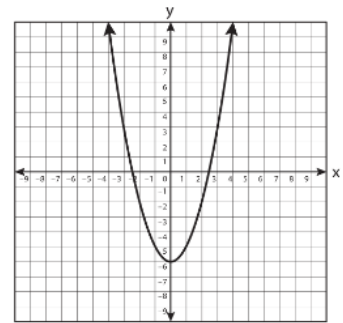
C



B



D



- 10 Which quadratic function has a vertex below the origin and opens upward?

F $y = (x - 3)^2 + 1$

G $y = x^2 - 2$

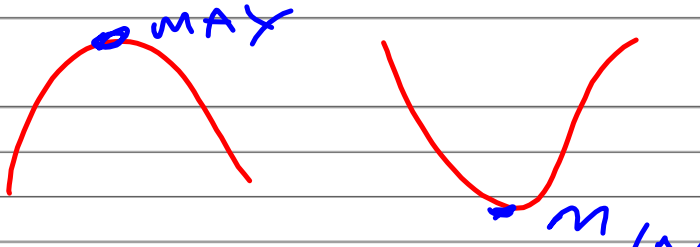
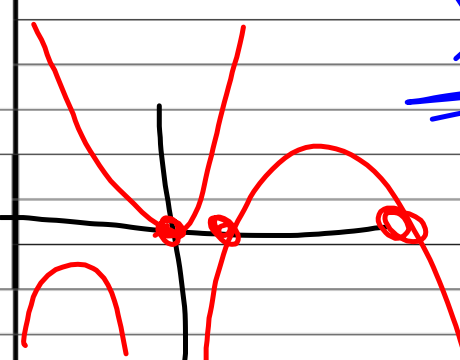
H $y = x^2 - 4$

J $y = -3x^2 + 1$

End of Course Algebra 1

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Reporting Category 5

<p><u>Quadratic and Other Nonlinear Functions:</u> The student will demonstrate an understanding of quadratic and other nonlinear functions.</p>	<p>Name: _____ Date: _____ Period: _____ Topic: A.10B- <u>make connections among the solutions (roots) of quadratic equations, the zeros of the their related functions, and the horizontal intercepts (x-intercepts) of the graph of the function;</u></p>
<p>Academic Language</p>	<p>Notes:</p>
<p>Vertex of parabola, (x, y)</p>	
<p>Quadratic Equation, $y = ax^2 + bx + c$</p>	
<p>Solutions</p>	<p>ROOT, X-INTERCEPT ZERO AT THE</p>
<p>Solution Set</p>	<p><u>X-AXIS</u></p>
<p>Zeros</p>	
<p>x-intercepts</p>	

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Reporting Category 5

A.10B	Make connections among the solutions (roots) of quadratic equations, the zeros of the their related functions, and the horizontal intercepts (x-intercepts) of the graph of the function:

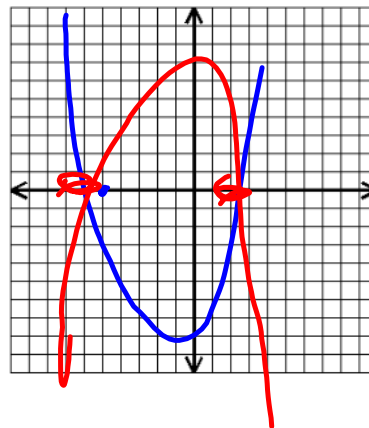
Part I

- 1 What is the difference between the root of a function, the zero of a function, and the solution of a quadratic equation?

NOTHING
X-AXIS

Find the roots, zeros, solutions, and x-intercepts of the quadratic equation $-4x^2 - 7x + 60 = 0$.

roots: _____ -4, 3
 zeros: _____
 solutions: _____ 3
 x-intercepts: _____



SAME
CROSS THE X-AXIS

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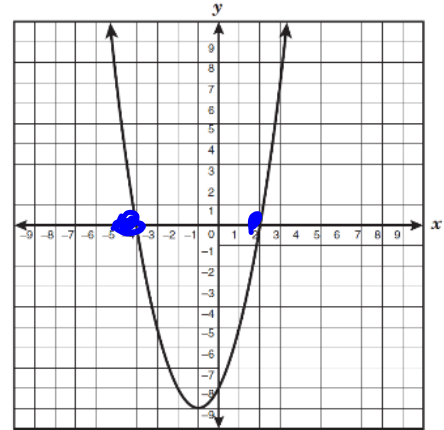
Reporting Category 5

- 2 What are the roots of the quadratic equation graphed below?

$$\Rightarrow \{-4, 2\}$$

Use your calculator to find the quadratic function of the graph.

$$(-4, 0), (2, 0)$$



- 3 What are the roots of the quadratic equation graphed below?

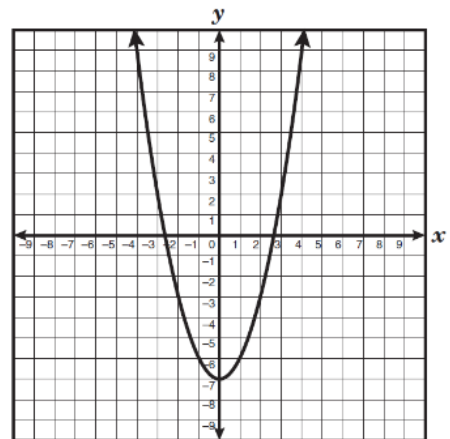
Approximate the roots of the function from the graph to the nearest tenth.

$$(-2, 0), (3, 0)$$

Use your calculator to find the quadratic function of the graph.

Can you find the actual roots? Why or why not?

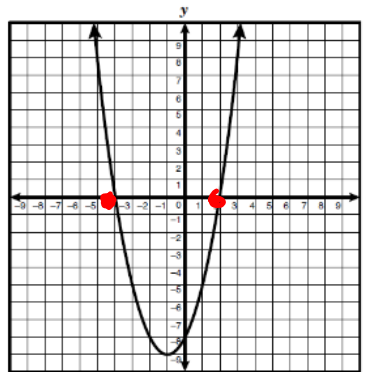
No



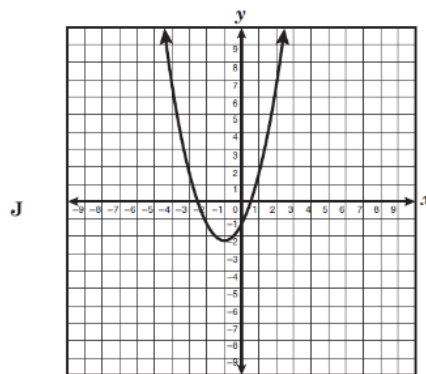
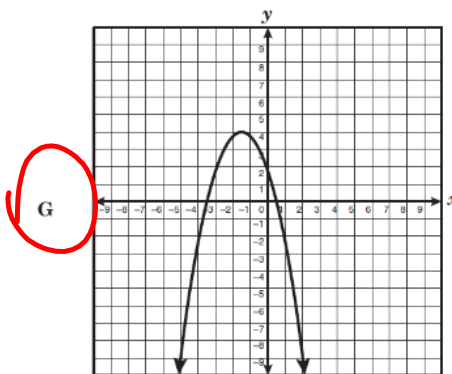
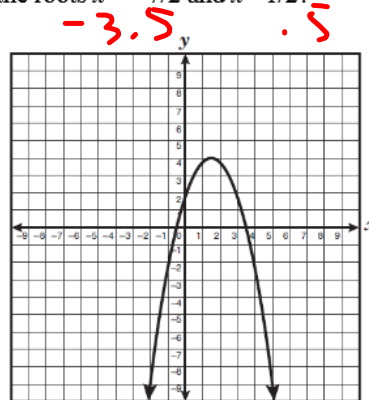
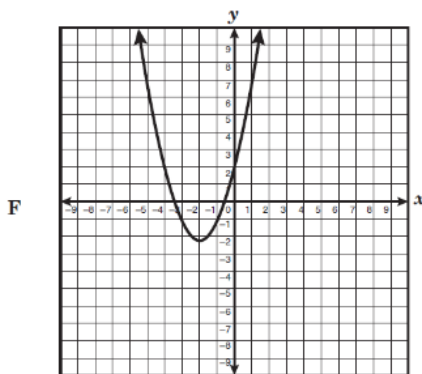
Part II

1 What are the roots of the function graphed below?

- A $(-1, -9)$ and $(0, -8)$
- ~~B~~ $(0, -4)$ and $(2, 0)$
- C** $(-4, 0)$ and $(2, 0)$
- D $(0, 2)$ and $(0, -4)$



2 Which graph best represents an equation that has the roots $x = -7/2$ and $x = 1/2$?



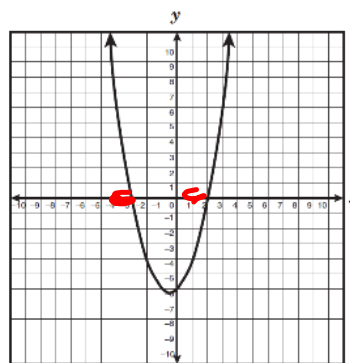
3 What are the x-intercepts of the graph of the equation $y = x^2 + x - 12$?

- A $x = 4, x = 3$
- B $x = -4, x = 3$**
- C $x = -4, x = -3$
- D $x = 4, x = -3$

4 The graph of $f(x) = x^2 + x - 6$ is shown. Which of the following is a zero of this function?

- F ~~-6~~
- G ~~3~~
- H ~~-2~~
- J 2**

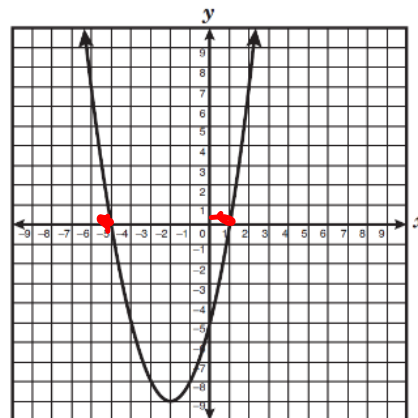
Handwritten: $\{-3, 2\}$



Handwritten: -3, 2

5 The graph of a function is shown below. Which of the following best represents the points where this function intersects the x-axis?

- A $(-5, 0), (0, 1)$
- B $(1, 0), (-5, 0)$**
- C $(-2, -9), (1, -5)$
- D $(0, -5), (0, 1)$



End of Course Algebra 1

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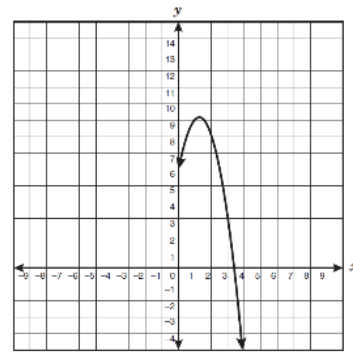
Reporting Category 5

6 Which ordered pair represents one of the roots of the function $f(x) = 2x^2 + 3x - 20$?

- F $(-5/2, 0)$
- G $(-4, 0)$
- H $(-5, 0)$
- J $(-20, 0)$

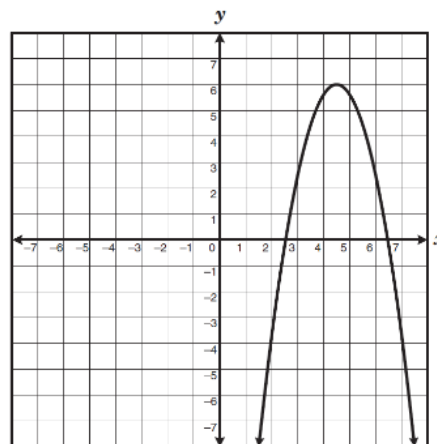
7 Part of the graph of a quadratic equation is shown below. If the line of symmetry for this quadratic equation is $x = 1.25$, between which two integers will the other part of the graph intersect the x -axis?

- A -4 and -3
- B -3 and -2
- C -2 and -1
- D -1 and 0



8 Which points best represent the roots of the graphed quadratic equation shown below?

- F $(6\frac{1}{2}, 0)$ and $(4\frac{1}{2}, 6)$
- G $(4\frac{1}{2}, 6)$ and $(2\frac{1}{2}, 0)$
- H $(2\frac{1}{2}, 0)$ and $(6\frac{1}{2}, 0)$
- J $(0, 2\frac{1}{2})$ and $(0, 6\frac{1}{2})$



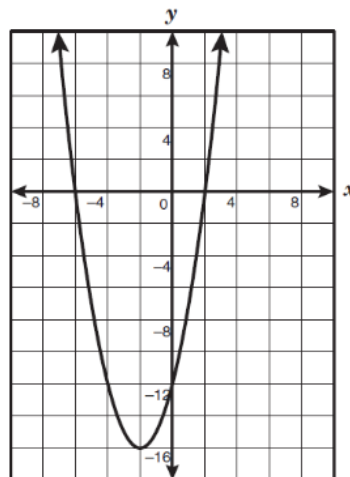
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9 Which of the following polynomial equations best represents this graph?

- A $(x + 6)(x - 2) = y$
- B $(x - 2)(x - 16) = y$
- C $(x - 6)(x + 2) = y$
- D $(x + 2)(x + 16) = y$



10 What are the zeros of the function $f(x) = -4(x - 3)(x + 5)$?

- F -12 and 20
- G -5 and 3
- H -4 and -5
- J -3 and 5



Algebra II
W.A.C

Thursday
October 16, 2014

A DAY

Is a goal a commitment?
Explain your answer.

B DAY

We all have favorite activities that we enjoy. Write an essay convincing readers to try the activity that you enjoy most..

