

8th Grade Math 2nd Semester Review, Part I

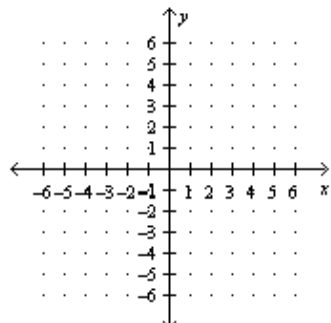
Name: _____ Hour: _____

Unit – 5 (Linear Equations)

(6 points) Use the slope and y -intercept to graph the equation.

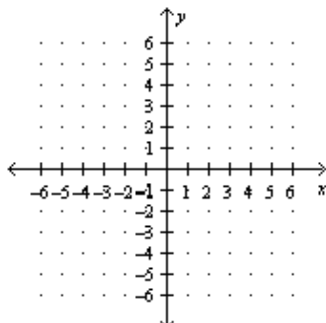
$$y = -2x - 3$$

$$m = \quad b =$$



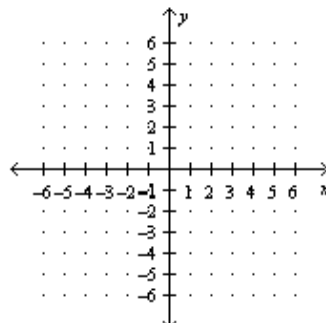
$$y = 4$$

$$m = \quad b =$$

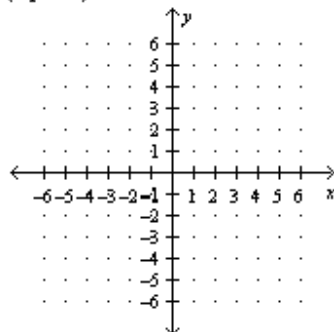


$$y = \frac{1}{3}x + 1$$

$$m = \quad b =$$



(3 points)



Rearrange the equation to slope-intercept form, then graph.

$$-4x + y = -3$$

$$m =$$

$$b =$$

(4 points) An electrician charges \$40 to show up plus \$55 an hour to work.

a) Define variables: $T =$ _____

c) Write equation:

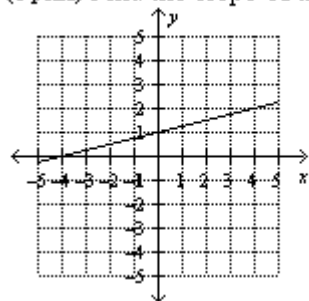
$$h =$$

b) Identify m & b : $m =$

d) If it takes 6 hours to do the job, how much will it cost?

$$b =$$

(1 point) Find the slope of the line.



a. -4

b. $-\frac{1}{4}$

c. $\frac{1}{4}$

d. 4

(2 points) Find the slope of the line that passes through the pair of points.
 (2, 4), (10, 0)

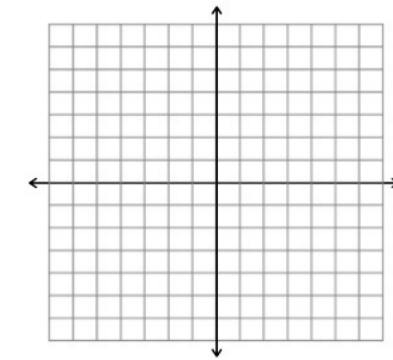
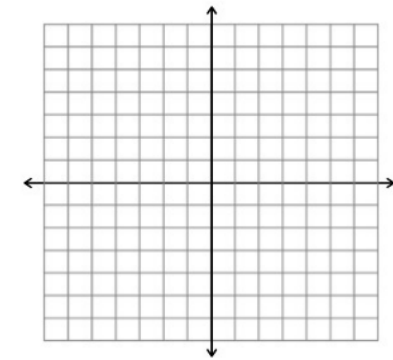
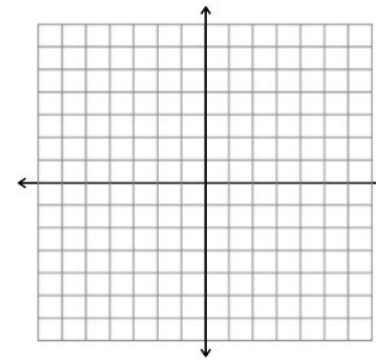
- a. $-\frac{1}{2}$ b. -2 c. $\frac{1}{2}$ d. 2

(2 points) Find the slope of the line that passes through the pair of points.
 (5, 5), (6, -1)

- a. -6 b. 6 c. $-\frac{1}{6}$ d. $\frac{1}{6}$

Unit – 6 (Systems of Equations)

Solve each system by **graphing**. Tell if system has *one solution*, *infinitely many solutions*, or *no solution*

$y = -2x - 2$ $y = 2x + 6$ 	$x + y = 3$ $y = 4x - 2$ 	$y = -\frac{1}{2}x + 3$ $y = -\frac{1}{2}x + 2$ 
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Solve each system using **substitution**.

$x = 4y$ $x + 2y = 66$	$y = x - 7$ $3x + y = 17$	$y = x + 2$ $2x + y = 8$
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Solve each system using **elimination**.

$4x - 4y = -24$ $-x + 4y = 21$	$x - 4y = -13$ $-7x - 4y = -5$	$-3x + y = 7$ $-4x + y = 3$
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8th Grade Math 2nd Semester Review, Part II

Name: _____ Hour: _____

Unit – 7 (Exponents/Scientific Notation)

Simplify $(-3x)^2$	Simplify $(x^3)^5$	Simplify $4d \cdot 4d^3$
Simplify $\frac{6x^0y^{-7}}{z^{-8}}$	Simplify $\frac{a^4b^6}{(ab)^2}$	Simplify $\left(\frac{x^4z^0}{4y^5}\right)^2$
What is 8.25×10^{-4} in standard form?	Write the number 0.025 in scientific notation.	
$(8.9 \times 10^5) + (1.7 \times 10^5) =$	$(4.2 \times 10^{12}) - (3.1 \times 10^{11}) =$	
$(4 \times 10^5) \times (1.7 \times 10^5)$	$\frac{2 \times 10^{-2}}{5 \times 10^{-4}}$	
How many times larger is 10^8 than 10^4 ?	The mass of Earth is about 10×10^{24} kg. The mass of Pluto is about 2.5×10^{22} kg. How many times larger is Earth than Pluto?	

Unit – 8 (Functions)

(2 points) Does the table represent a function? Explain how you know.

x	-2	-1	0	1	2
y	4	3	-9	3	4

(2 points) Does the list of ordered pairs represent a function? Explain how you know.

- (9, -1)
- (-2, 3)
- (1, 3)
- (-2, 2)

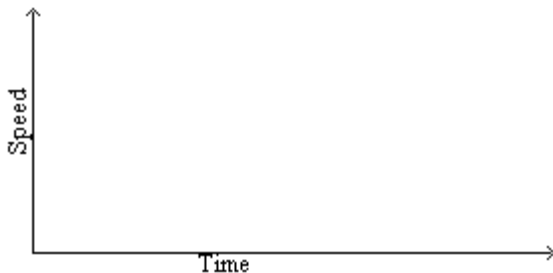
(2 points) Is the function represented by the table linear or non-linear? Explain how you know.

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

(2 points) Is the function represented by the table linear or non-linear? Explain how you know.

x	-2	-1	0	1	2
y	-10	-7	-2	1	6

(2 points) Sketch a graph of the speed of a city bus on a daily route. **Label each section with the letter.**
 A - bus pulls away from a stop and increases speed
 B - bus is at a constant speed between stops
 C - bus is stopped
 D - bus increases speed after stopping



(2 points) Write an equation that represents the table.

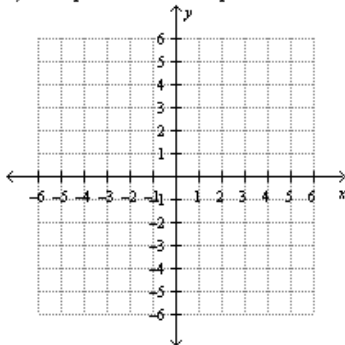
x	y
0	18
1	15
2	12
3	9
4	6

(4 points)

a) Make a table of value from the equation

$y = x^2 + 1$ b) Graph the ordered pairs from the table.

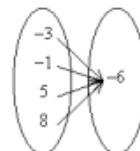
x	y
2	
1	
0	
-1	
-2	



(1 point) Identify the mapping diagram that represents the ordered pairs and whether it is a function.

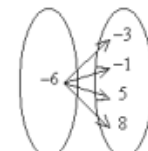
{ (-6, -3) (-6, -1) (-6, 5) (-6, 8) }

a.



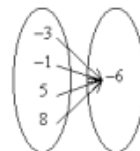
Not a function

c.



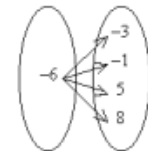
Function

b.



Function

d.



Not a function