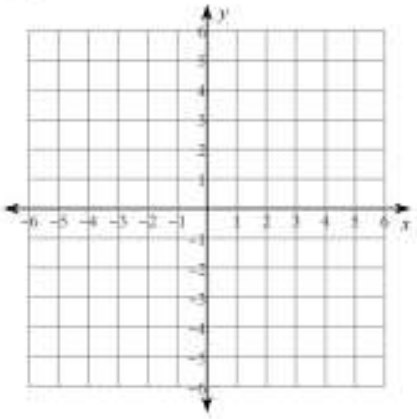
Algebra 1 Name_____

Unit 3 Review: Graphing Lines

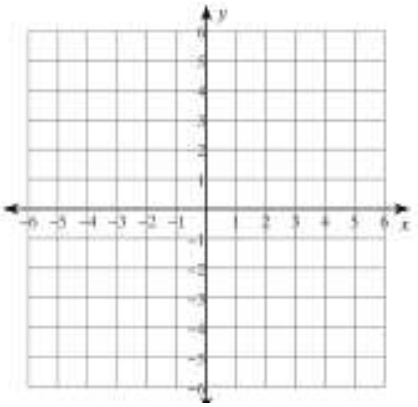
Date_____ Algebra____

Sketch the graph of each line.

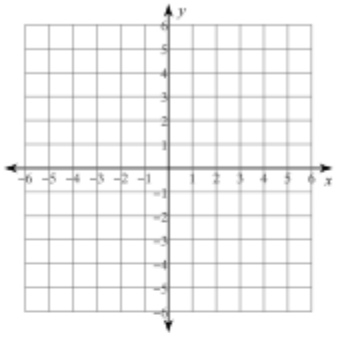
1) $y = 5x - 1$



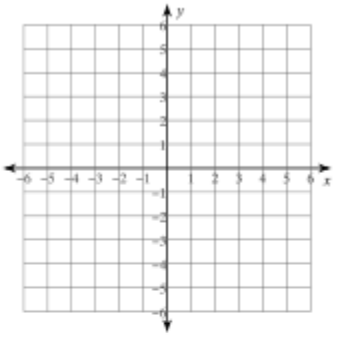
2) $y = \frac{1}{5}x + 2$



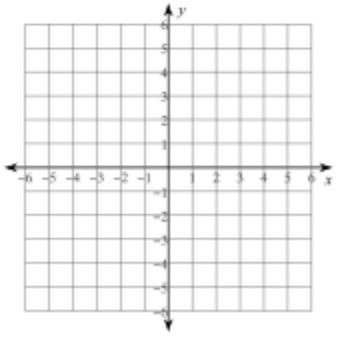
3) $0 = -2 + x$



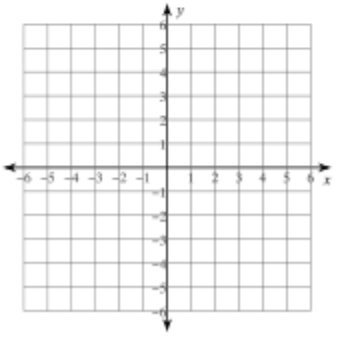
4) $x = -y + 1$



5) $0 = y - 2$



6) $-8 - 5x = 2y$



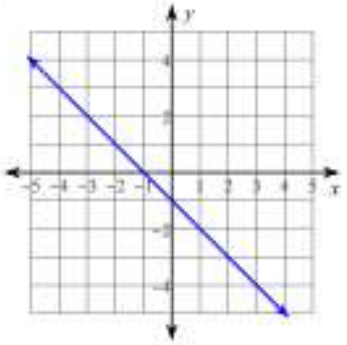
Algebra 1 Name_____

Unit 3 Review: Writing Equations

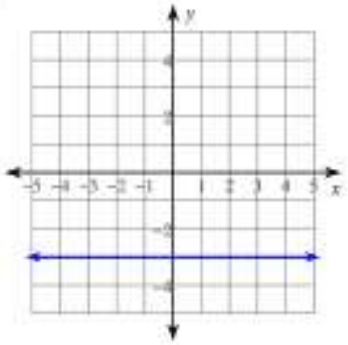
Date_____ Algebra____

Write the slope-intercept form of the equation of each line.

1)



2)



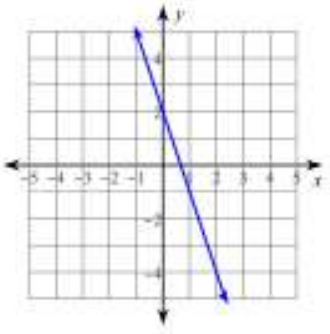
3) through: $(-3, 4)$, slope = 4

4) through: $(4, 4)$, slope = $\frac{9}{4}$

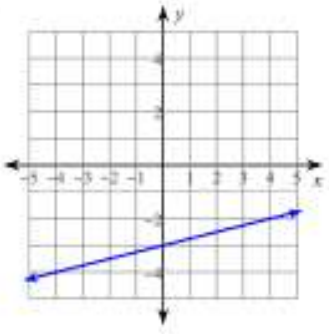
5) through: $(1, 1)$ and $(-4, -1)$

6) through: $(2, -4)$ and $(0, 2)$

7)



8)



9) through: $(-2, 5)$, slope = 0

10) through: $(5, 5)$, slope = 2

Unit 3 Review: Functions Name_____ Date_____ Algebra ___

Fill in the function tables.

1. $f(x) = \frac{1}{3}x + 2$

x	-2		0	
f(x)		5/3		7/3

2. $p(x) = -x - 2$

x	-3			3
p(x)		-1	-3	

3. $k(x) = 5x - 10$

a. What happens when x = 5?

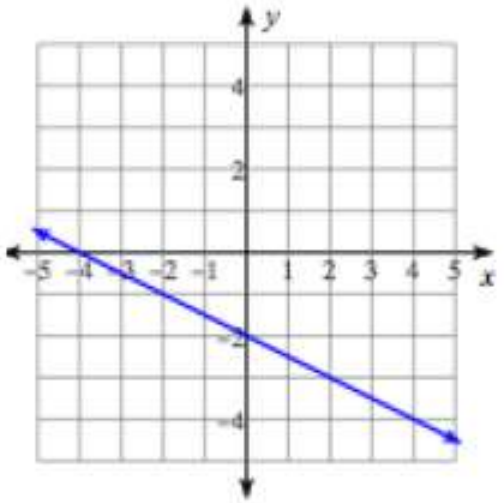
b. What happens when k(x) = 35?

4. $g(x) = \frac{1}{2}x - 1$

a. What happens when x = 10?

b. What happens when g(x) = -11?

5. Use the graph to determine:
What is f(2)?
What is x when f(x) = -2?



Unit 3 Review: Parallel & Perpendicular Lines Name_____ Date_____ Algebra ___

Write the slope-intercept form of the equation of each line described:

1) line through (2, 3), and parallel to $y = 3x - 4$

2) line through (3, -2), parallel to $y = (-2/3)\,x + 3$

3) line through (1, 4) parallel to $x = 2$.

5) line through (4, -3), perpendicular to $y = -4x - 2$

6) line through (4, 4), perpendicular to $y = -1/2x + 5$

7) line through (-2,-2), perpendicular to $x = -1$

8) line through (-2,-2), perpendicular to $y = 6$.

Unit 3 Review: Modeling Name_____ Date_____ Algebra ___

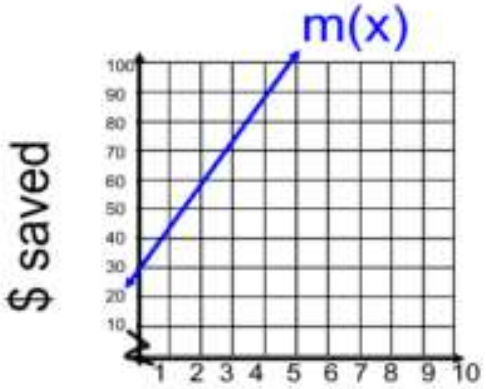
1. Allison is saving up money to buy the new iPad Air. To earn money she is tutoring other students in Algebra. The amount of money Allison starts with and is earning per hour of tutoring can be represented by a function *m(x)* and is graphed at right:

a) How much money does Allison start with before she tutors anyone?

b) How many hours will Allison have to tutor to save $90? So what does x equal when *m(x)* = 90?

c) How much money does Allison earn per hour she tutors?

d) Using your answers from the previous questions, please write an equation for the function *m(x)*. Think about what information you need to write the equation of a line.



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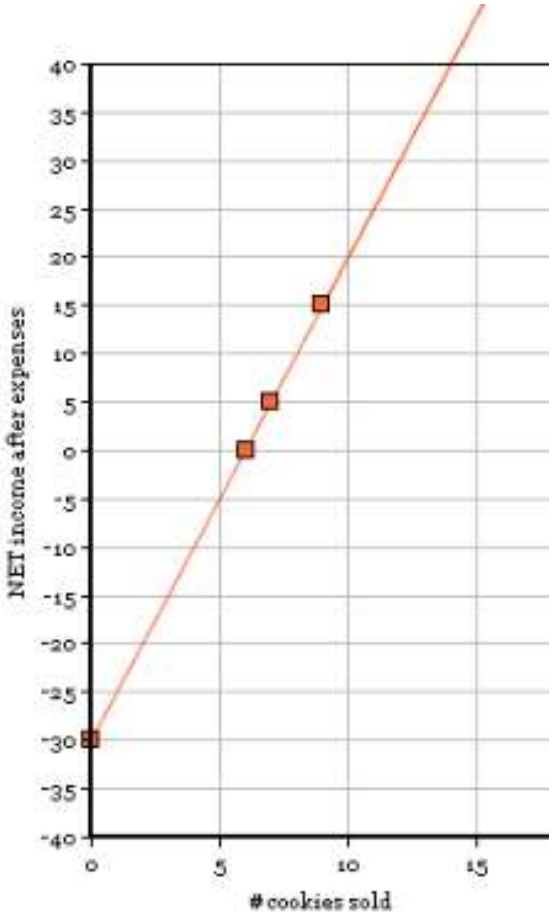
2. Tasha is starting a business of creating and selling homemade cookies. The startup costs of her little business were $30 for packaging and baking materials, and each box of cookies costs her $2 to make (for baking supplies). Tasha charges $7 for each box of cookies.

a) Write a function *p(x)* that represents the profit that Tasha is making for her business. This function should be the amount of money she brings in for each box MINUS the amount it costs her to make each box. Show your work algebraically.

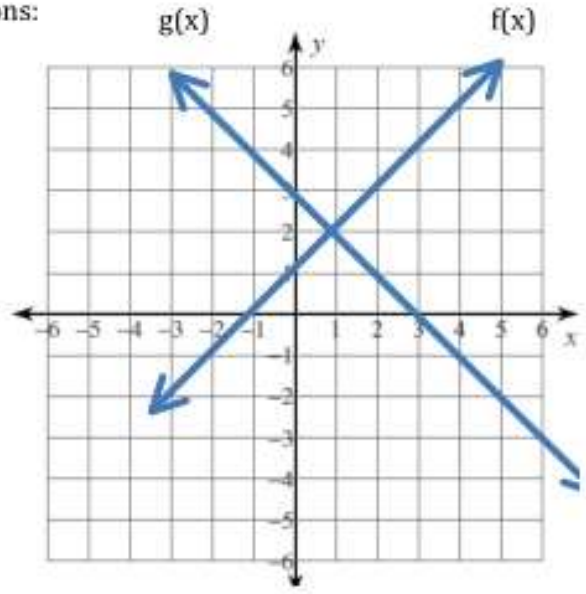
b) How many boxes of cookies does Tasha need to sell before she starts MAKING money from selling cookies? Show your work algebraically.

c) If Tasha's cookies take off and she sells 100 boxes, how much money will she make? Show your work !



Unit 3 Review: Graphing Functions Name_____ Date_____ Algebra ___

1) Examine the graph below to answer the following questions:



a) What are the coordinates of the points where $f(x) = g(x)$?

b) What is $f(2)$?

What is $g(2)$?

c) Which function has a greater value when x =2?

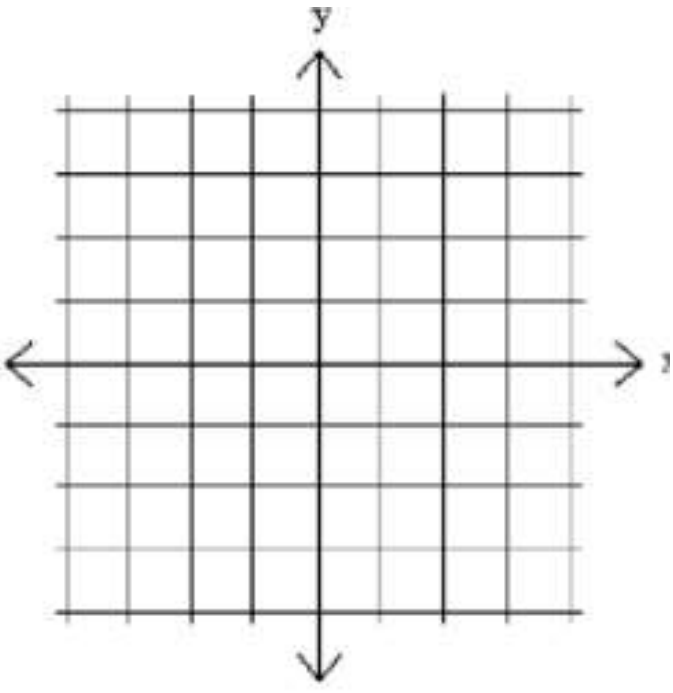
d) Give an example of an x value where $g(x) > f(x)$

e) When $f(x) = 3$ what does x equal?

f) When $g(x) = 3$, what does x equal?

g) Find the equations for both $f(x)$ and $g(x)$.

2) Let $f(x) = -x + 1$ and $g((x)) = \frac{1}{2}x + 4$.



a) Graph f(x) and g(x) on the axes to the right.

b) What are the coordinates of the point where f(x) = g(x)?

c) What is f(0)? What is g(0)?

d) Where does f(x) = 0?

Where does g(x) = 0?

e) When x =3, which function is greater?

f) Write a function h(x) that is a horizontal line that makes f(-2) = g(-2) = h(-2)