Name:_____ Date:_____

Notes: Writing Linear Equations

Do Now: Find the equation of each linear relation in $y = mx + b$ form.

1) $8x - 3y = 13$

2) *the output is five less than twice the input*

3) $passes\ through\ (4,3)\ with\ slope = 3$

4) $A\ line\ that\ passes\ through\ (2,5)\ and\ (6,7).$

5)

x	4	7	10	13	16
y	7	19	31	43	55

6)

A car leaves Albany, NY, and travels west toward Buffalo, NY. The equation $D = 280 - 59t$ can be used to represent the distance, D, from Buffalo after t hours. In this equation, the 59 represents the

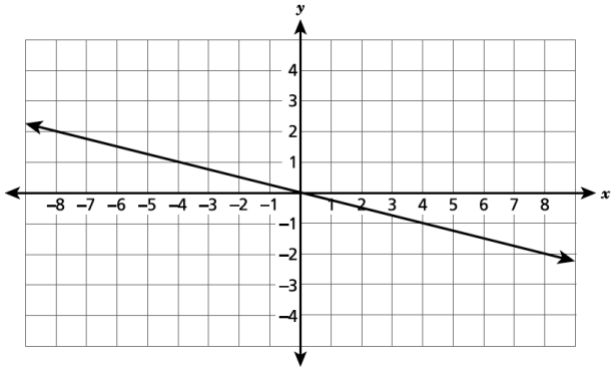
(1) car's distance from Albany

(2) speed of the car

(3) distance between Buffalo and Albany

(4) number of hours driving

7)



Name: _____ Date: _____

Classwork: Writing Linear Equations

Find the equation of each linear relation in $y = mx + b$ form.

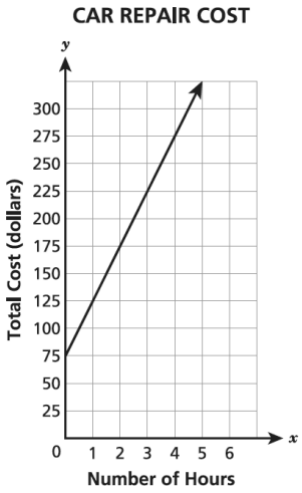
1) $passes\ through\ (-3,7)\ with\ slope = \frac{3}{2}$

2) $passes\ through\ (7,0)\ and\ (0,-5)$

3)

x	y
-7	14
-5	8
-3	2
-1	-4
1	-10

4)



5)

A cell phone company charges \$60.00 a month for up to 1 gigabyte of data. The cost of additional data is \$0.05 per megabyte. If d represents the number of additional megabytes used and c represents the total charges at the end of the month, which linear equation can be used to determine a user's monthly bill?

(1) $c = 60 - 0.05d$

(2) $c = 60.05d$

(3) $c = 60d - 0.05$

(4) $c = 60 + 0.05d$

6)

Madison created two functions.
For Function A, the value of y is two less than four times the value of x.
The table below represents Function B.

Function B

x	y
–3	–9
–1	–5
1	–1
3	3

In comparing the rates of change, which statement about Function A and Function B is true?

A Function A and Function B have the same rate of change.

B Function A has a greater rate of change than Function B has.

C Function A and Function B both have negative rates of change.

D Function A has a negative rate of change and Function B has a positive rate of change.

7)

The table below represents a linear function.

x	y
–1	5
1	9
3	13
5	17

Which function has a greater slope and a greater y-intercept than the linear function represented in the table?

A $y = 2x + 8.5$

B $y = 3x + 7.5$

C $y = 5x + 6.5$

D $y = 10x + 5.5$

8)

Function P is a linear function with a y-intercept of 5. Function Q is defined by the equation $y = -\frac{1}{3}x + 4$. Which statement **must** be true about functions P and Q?

A Both functions have the same slope.

B Both functions have a negative slope.

C The functions will have the same input when $y = 0$.

D The functions will have different outputs when $x = 0$.

9)

Which chart could represent the function $f(x) = -2x + 6$?

x	f(x)
0	6
2	10
4	14
6	18

(1)

x	f(x)
0	8
2	10
4	12
6	14

(3)

x	f(x)
0	4
2	6
4	8
6	10

(2)

x	f(x)
0	6
2	2
4	–2
6	–6

(4)

10)

Tanya is making homemade greeting cards. The data table below represents the amount she spends in dollars, $f(x)$, in terms of the number of cards she makes, x.

x	f(x)
4	7.50
6	9
9	11.25
10	12

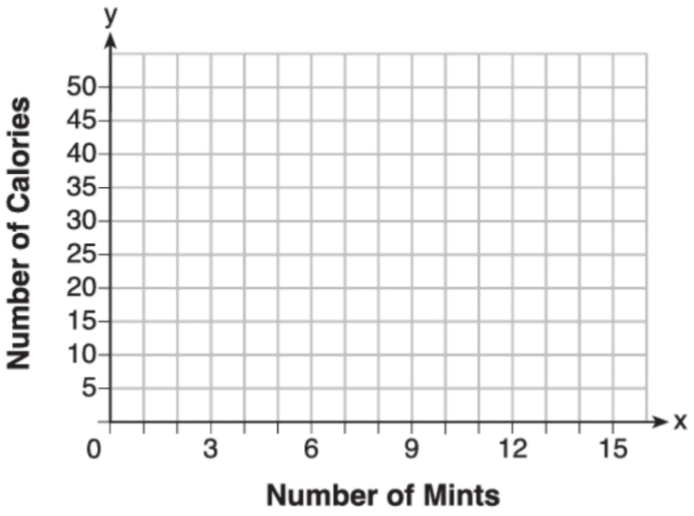
Write a linear function, $f(x)$, that represents the data.

Explain what the slope and y-intercept of $f(x)$ mean in the given context.

11)

Max purchased a box of green tea mints. The nutrition label on the box stated that a serving of three mints contains a total of 10 Calories.

On the axes below, graph the function, C, where $C(x)$ represents the number of Calories in x mints.



Write an equation that represents $C(x)$.

A full box of mints contains 180 Calories. Use the equation to determine the total number of mints in the box.