HOMEWORK 3.21.18 (DUE 3.23.18) **NAME: _____** **PERIOD: __**

→ CCSS 8.EE.5, 8.EE.6, 8.F.4

PROPORTIONAL RELATIONSHIPS

1. Which of the following is not a true statement about proportional graphs?

A. A proportional graph will pass through the origin.
B. A proportional graph will be a straight line.
C. A proportional graph will always have a positive slope.
D. A proportional graph will have a constant rate of change.

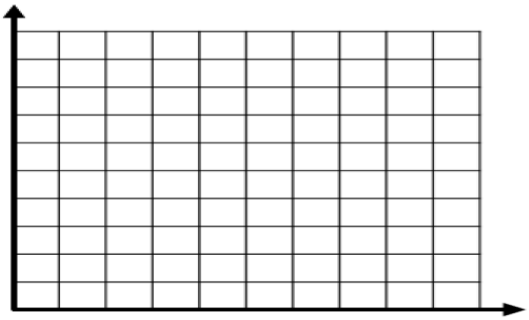
2. Describe how you can tell if an equation is proportional or not:

3. You're taking an exam in math, and you spend 5 minutes for every 2 questions you answer on the test.

a. Complete the table to show the relationship between the number of questions and the amount of time spent on the exam.

# Questions	0	1	2	3	4
Time (minutes)					

b. Using the table, create a graph of the relationship. Be sure to title the graph, and label the x and y-axis. Choose your interval for each axis.



c. Write an equation for the graph.

d. Explain how you can tell if the following representations of the relationship are proportional:

Table: _____

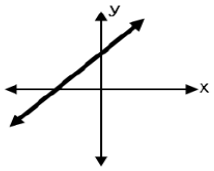
Graph: _____

Equation: _____

Label the following representations as "proportional" or "non-proportional". Explain your answers.

4. $y = -9x$

5.



6. $y = 19x - 5$

7.

x	y
10	18
11	18.6
12	19.2

8.

x	y
-9	-8
0	0
9	8

→ CCSS 8.EE.5, 8.EE.6, 8.F.4 **NON–PROPORTIONAL RELATIONSHIPS**

1. Jackson currently has $35 in his bank account, and he is saving $15 a week to eventually buy a new cell phone. He can represent the amount in his account with the equation $y = 15x + 35$.

a. What does "x represent in the equation? _____

b. What does "y" represent in the equation? _____

c. What is the slope? _____

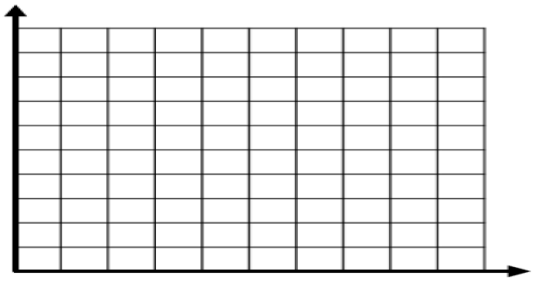
d. What is the y-intercept? _____

2. Create a table of values for Jackson's situation described above.

x	0	1	2	3	4	5
y						

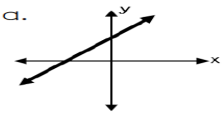
Is the table proportional? How do you know?

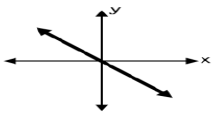
3. Create a graph to represent how much money Jackson has in his bank account based on the number of weeks he has been saving. Be sure to title the graph, each axis, and choose appropriate intervals for your graph.

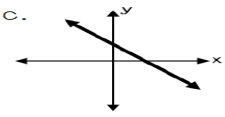


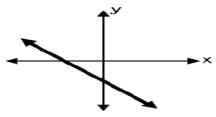
Is the graph proportional? How do you know?

4. Which of the following could be the graph of the equation $y = -2x + 5$? How do you know?

a. 

b. 

c. 

d. 

#5–9: Match each equation with the description of its graph below.

$y = -10x$	$y = 2.5x - 7$	$y = \frac{7}{8}x + 1$	$y = 1.2x$	$y = -5x - 8$

5. My graph is non-proportional with a positive y-intercept. _____

6. My graph has a negative slope and passes through the origin. _____

7. My graph increases from left to right, and my "b" value is negative. _____

8. My graph contains the point (0, 0) and has a positive slope. _____

9. My graph has a negative "m" value and a negative "b" value. _____

10. Which table below represents a non-proportional relationship? Give at least two reasons that justify your choice.

Table A

x	y
0	0
3	1
12	4
21	7

Table B

x	y
0	3
3	4
12	7
21	10

_____

_____

_____