Algebra **Name**_____
Cumulative Review 5/6 **Date** _____ **Period**_____

FUNCTIONS AND RULES (equations)

1. Sketch a graph of the situation. Label each section.

The distance from home a family is that drives 3 miles to the movie theater, returns home because they forgot their money, and then drives 1 mile to the movie rental store

Find the domain and range for each relation.

2. $\{(3, 9), (1, 5), (2, 9), (5, 11), (3, 12)\}$

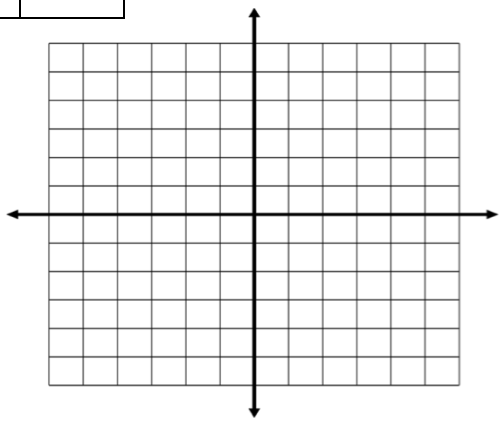
Find the range of function rule $y = 3x + 4$ for each domain.

3. $\{2, 9, 11.5\}$

Model each rule with a table of values and a graph.

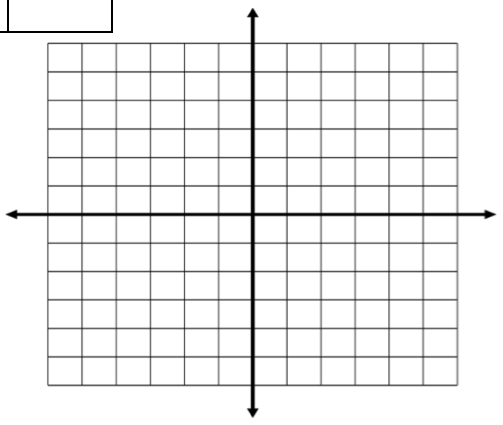
4. $f(x) = 9 - x$

X	y



5. $f(x) = x^2 + 3$

X	f(x)



6. Label the following situations as **discrete (not connected)** or **continuous** (**connected)**

a) the graph of your growth from birth to age 12

b) the graph of the number of pops you buy at the snack shop

c) the graph of the speed of a motorcycle

Determine whether each relation is a function. EXPLAIN WHY OR WHY NOT.

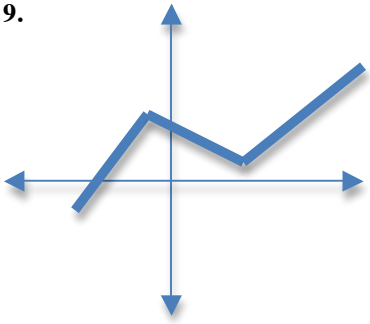
3.

x	y
−4	2
−2	1
0	0
1	2

4.

x	y
−3	−2
4	−1
8	−1
4	−2

9.



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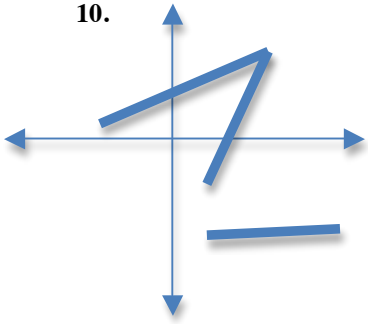

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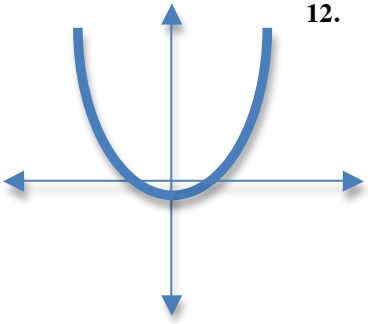


Write a function rule for each table.

13.

x	y
−2	−3
−1	−1
0	1
1	3
2	5

X	F(x)
2	10
4	13
6	16
8	19
10	22

14.

Write a function rule for each situation.

14. the cost of staying in a motel at $65 per night

15. the amount of money you earn working for $7.15 an hour

16. the total cost of your lunches if you spend $3.25 each day and start with $50.

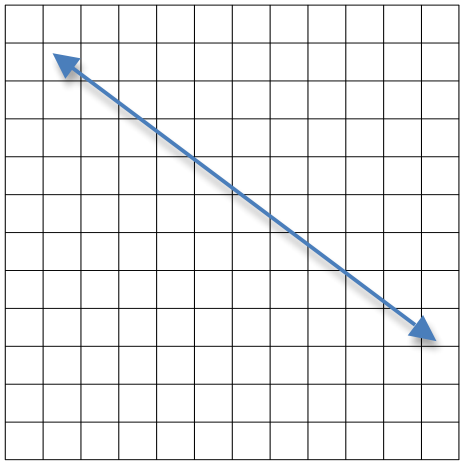
17. You go to candy store to buy jelly beans. Your total price depends on the weight. The cost is $1.15 per pound.

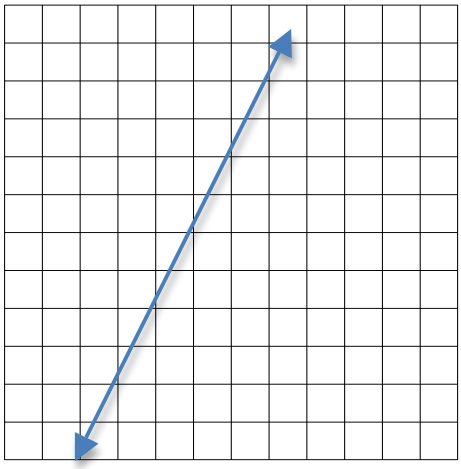
a. Write a function rule describing the situation.

b. How much would it cost you if the bag of jelly beans weighed 5 lbs?

Rate of Change – Equations – Graphing

1. Find the rate of change from the graphs.





2. Find the slope of the lines with the following ordered pairs:

a. (2, 5) and (7, 9)

b. (-2, 4) and (1, -5)

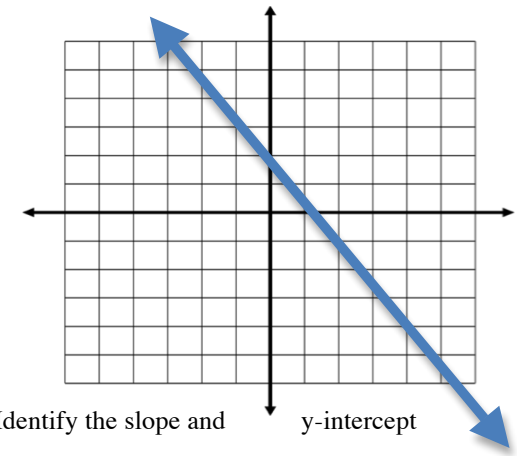
3. Find the rate of change. The minimum wage in 1994 was $5.25. In 2010, the minimum wage is $7.15.

4. Would the graphs of the following situations be discrete or continuous?

b) the number of ice cream cones bought at the snack shop

c) the length of a snake

5. Identify the y-intercept and slope of the following graph. Then write an equation in slope-intercept form.



6. Identify the slope and y-intercept of the following equations.

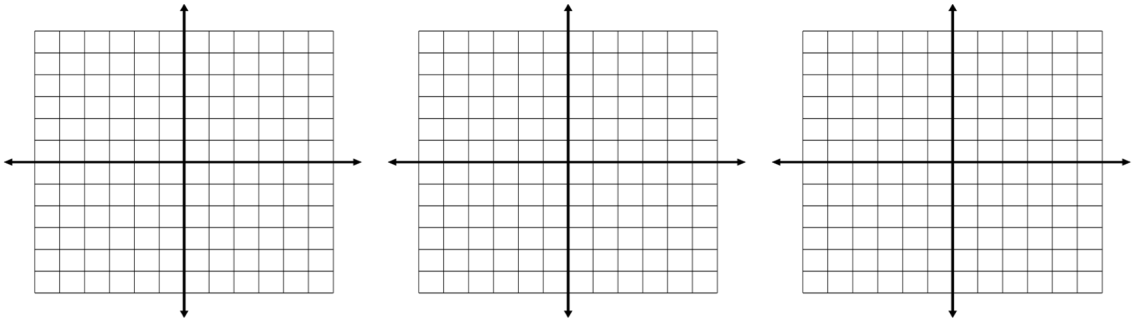
a) $y = 3x + 5$

b) $y = \frac{1}{2} x - 3$

c) $y = 8$

7. Graph the following equations.

a) $y = 2x - 5$ b) $y = \frac{1}{2}x + 1$ c. $y - 3 = 4(x + 1)$

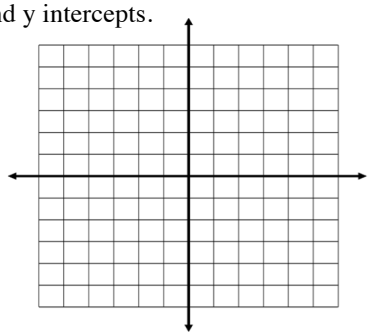


8. Graph the following equation by finding the x and y intercepts.

$6x - 3y = 12$

x-intercept _____

y-intercept _____



9. A line passes through the points (4, 1) and (2, -5). Write the equation of the line in point-slope form. Then rewrite into slope-intercept form.

Write an equation that represents the problem below.

10. You have 310 saved texts on your phone. You delete 3 per minute. Write a linear function that models the number of texts after x minutes.

a.) equation _____

b.) How many texts will you have left after 20 minutes?

11. Adult movie tickets are $10 and student movie tickets are $8. Write a standard equation relating the number of adults and students that can go to the movie for $40.

a.) equation _____

b.) Do you have enough money to take 3 adults and 2 students? Why or why not _____