

STATION 1

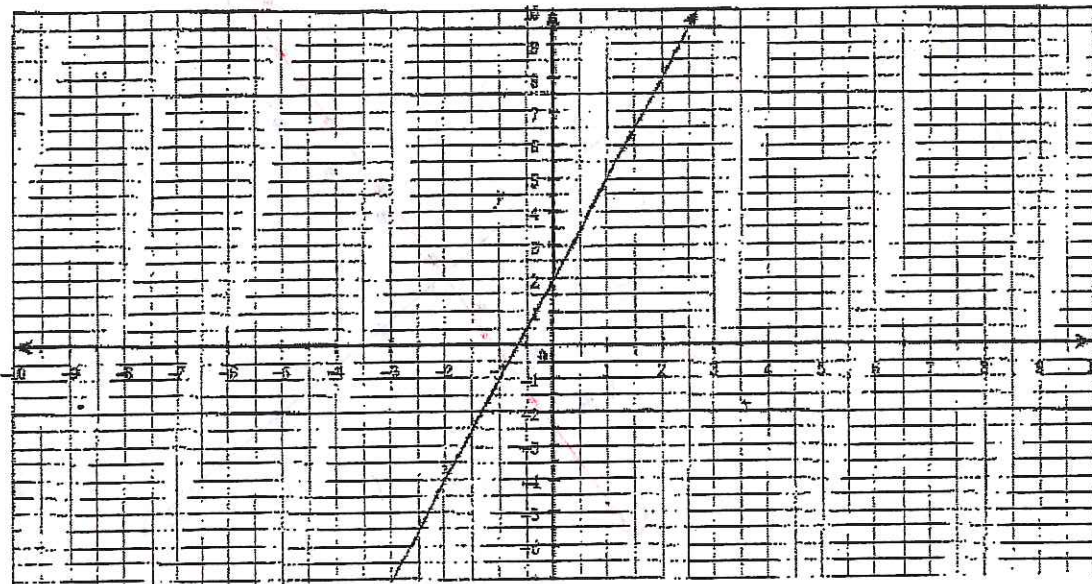
NAME Key

There are two functions given below. Analyze each function and answer the questions that follow.

Function 1:

x	0	3	5	6	8
y	3	9	13	15	19

Function 2:



2. Describe in words the rate of change for each function.

Function 1: Rise 2 units for every run of 1 unit to the right.

Function 2: Rise 3 units for every run of 1 unit to the right

3. Which function has the greater y-intercept? Function 1

How do you know? Function 1 $\rightarrow b=(0,3)$ and Function 2 $\rightarrow b=(0,2)$

4. What is the algebraic equation for Function 1? $y=2x+3$

5. What is the algebraic equation for Function 2? $y=3x+2$

6. Propose a real-world scenario for Function 1.

Start off with \$3. Then your sibling gives you \$2 per month.

7. Propose a real-world scenario for Function 2.

You have 2 books. Then you buy 3 books per week.

STATION 2

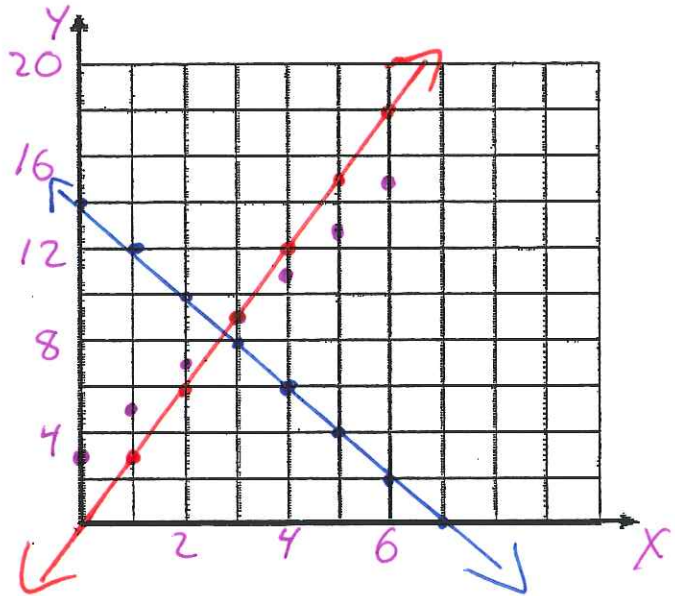
NAME _____

Key

You will be given a number cube, spaghetti noodles, graph paper, and a ruler. For problems 1 and 2, you are given an equation in slope-intercept form.

- As a group, roll the number cube. Write the result in the first row of the x-value column below. Repeat this process until all the rows of the x-value contain a number.
- Work together to complete the table of x- and y-values based on the equation $y = 2x + 3$.

x-value	y-value
3	9
6	15
5	13
4	11



- Graph the data from the table on the grid at the right.

- Use a spaghetti noodle to graph a line that has a slope of 3 and passes through the point (1, 3). How can you use this graph to find the equation of the line?

#3 is in red We already know $m=3$ and the y-intercept is where the line crosses the y-axis. So $b=(0,0)$

- Write the equation of this line in slope-intercept form. (Hint: Use $y = mx + b$.)

$y = 3x$

- Use a spaghetti noodle to graph a line that has a slope of -2 and passes through the point (4, 6). How can you use this graph to find the equation of the line?

#5 is in blue We already know $m=-2$ and the y-intercept is where the line crosses the y-axis. So $b=(0,14)$

- Write an equation of this line in slope-intercept form. (Hint: Use $y = mx + b$.)

$y = -2x + 14$

STATION 3

NAME _____

Key

Analyze the equation and the scenario given below. Use these to answer the questions that follow.

Function 1: $y = -\frac{1}{2}x - 2$

Function 2: Omar owes his mother \$4. She tells him that for each day he does not pay her back she is going to charge him 25 cents. $y = -\frac{1}{4}x - 4$

1. Which function(s) have a negative rate of change? Both Functions

Explain your thinking. Function 1 has $m = -\frac{1}{2}$
Function 2 has $m = -\frac{1}{4}$

2. Which function has the greater y-intercept? Function 1

Explain your thinking. Function 1 $b = (0, -2)$ -2 is closer to zero and therefore greater.
Function 2 $b = (0, -4)$

3. Create tables for Functions 1 and 2 below.

Function 1

x	y
-4	0
-2	-1
0	-2
2	-3
4	-4
6	-5

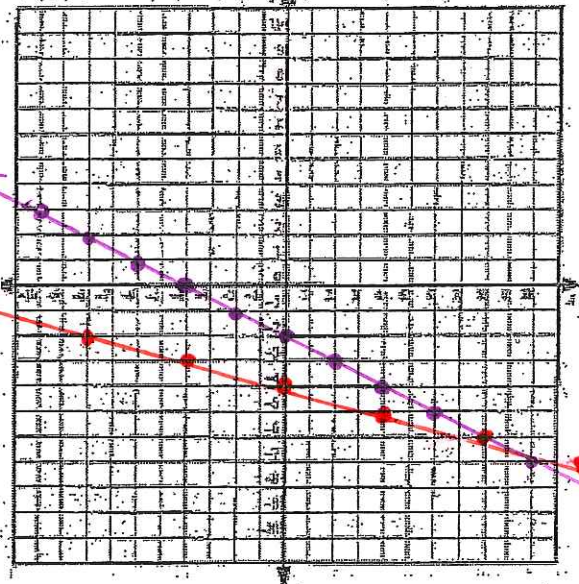
Function 2

x	y
-8	-2
-4	-3
0	-4
4	-5
8	-6
12	-7

4. How do the tables support your answers to #1 and #2?

F1 has a slope of $-\frac{1}{2}$
F2 has a slope of $-\frac{1}{4}$

5. Graph both functions on the same coordinate plane.



6. How do the graphs support your answers to questions 1 and 2?

F1 Falls one unit for every run of 2 units to the right
F2 Falls one unit for every run of 4 units to the right

