Name: _____ Date: Nov. 8 Hour: _____

Unit 3b Day 13: Writing Equations of Lines From a Table

Focus Question: How do I write the equation of a table?

A. Review

1. Find the rate of change from each table below.

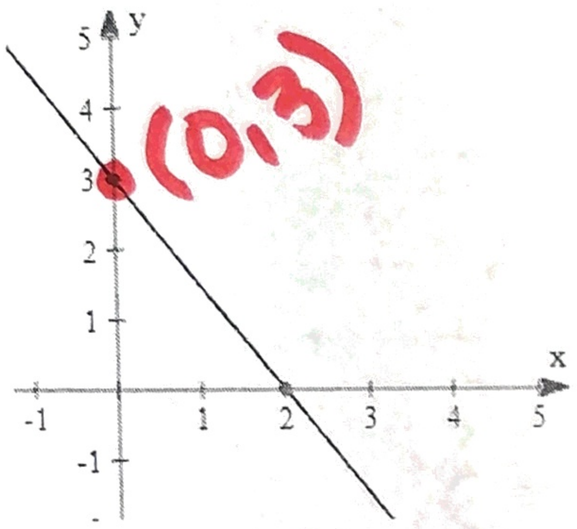
x	y
0	3
2	11
4	19
6	27
8	35

+2, +8, $\frac{\Delta y}{\Delta x}$, $m = \frac{8}{2}$, $m = 4$

x	y
-1	13
-3	16
-5	19
-7	22
-9	25

-2, +3, $m = -\frac{3}{2}$

2. Identify the y intercept of the graph below. Write your answer as an ordered pair.



(0,3)

3. The y intercept occurs when the x value is 0

4. The equation of a line is y=mx+b or f(x)=mx+b

5. So when you are finding the y-intercept from a table, you are looking for where X is 0

B. Writing the equation from a table

Write the equation of each table below.

x	y
0	1
1	4
2	7

+1, +3

Slope: $m = \frac{3}{1} = 3$

y-int: (0,1) b=1

Equation: f(x) = 3x + 1

Teleflora Flowers	
Dozen	Cost
0	15
1	31
2	47
3	63

+1, +16

Slope: m = 16

y-int: (0,15) b=15

Equation: f(x) = 16x + 15

number of sodas	bags of popcorn
0	10
3	8
6	6
9	4
12	2
15	0

+3, -2

Slope: $m = \frac{-2}{3}$

y-int: (0,10) b=10

Equation: $f(x) = -\frac{2}{3}x + 10$

Little Bit Tougher: Write the equation of each table

Temperature (°C)	Volume of Gas (mL)
20	60
40	65
60	70
80	75
100	80

+20, +5

Slope: $\frac{\Delta y}{\Delta x}\ \frac{5}{20}$ $m = \frac{1}{4}$

y-int: (0, 55) $b = 55$

Equation: $f(x) = \frac{1}{4}x + 55$

Number of Photos Printed	Total Cost of Photos (in Dollars)
10	2
20	4
30	6
40	8

+10, +2

Slope: $m = \frac{2}{10}$ or $m = \frac{1}{5}$

y-int: (0, 0) $b = 0$

Equation: $f(x) = \frac{1}{5}x$

x	−6	−2	2	6	10
y	−4	−2	0	2	4

all +4, all +2

Slope: $m = 2/4$ $m = 1/2$

y-int: (0, −1) $b = -1$

Equation: $f(x) = \frac{1}{2}x - 1$

X	1	2	3	4	5	6
Y	−1	-4	-7	-10	-13	-16

Slope: $m = -3$

y-int: (0, 2) $b = 2$

Equation: $f(x) = -3x + 2$

Challenge!

Write the equation of each table.

x	y
2	-10
6	-4
10	2
14	8
18	14
22	20

Number of Lawns	Total Earned (in Dollars)
3	25.50
5	42.50
7	59.50
9	76.50

−1, +2, −8.50, 8.50, +17

$\frac{\Delta y}{\Delta x}\ \frac{17}{2}$ $m = \frac{17}{2}$ $b = (0, 0)$

$f(x) = \frac{17}{2}x$