

NAME: Key!

DATE: _____

Unit 5 Review Graphing Linear Equations

Tables, Equations, and Graphs

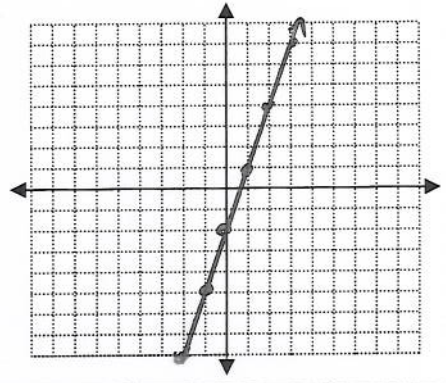
1. Given the table. Write the equation. Graph it!

x	y
0	-2
1	1
2	4
3	7

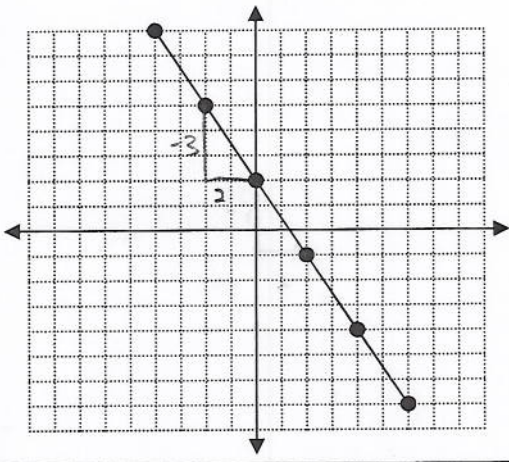
Initial value (start) = -2

Rate of Change = $\frac{3}{1} = 3$

$y = -2 + 3x$ or $y = 3x - 2$



2. Given the graph. Write the equation.



slope = $-\frac{3}{2}$

y-intercept = 2

$y = -\frac{3}{2}x + 2$
or $y = 2 - \frac{3}{2}x$

3. Given the equation. Fill in the table.

$y = 5x - 12$

x	y
-2	-22
-1	-17
0	-12
1	-7
2	-2
3	3
20	88

$5(-2) =$

SLOPE (RATE OF CHANGE)

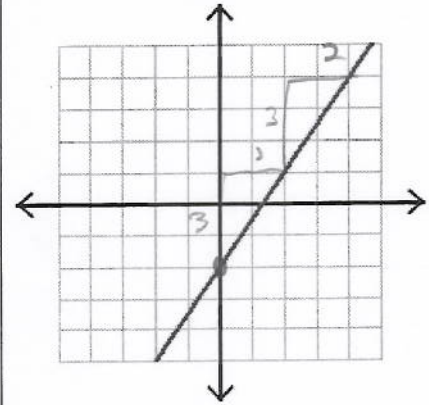
4. Find the slope

Time (seconds)	Profit (dollars)
6	21
9	25
12	29

$m = \frac{4}{3}$

$\frac{25 - 21}{9 - 6} = \frac{4}{3}$

5. Find the slope, x-intercept, and y-intercept.



$m = \frac{3}{2}$
 $b = -2$

6. Find the slope of the line that contains the points: (-12, 8) and (-21, -20)

$\frac{-20 - 8}{-21 - (-12)} = \frac{-28}{-9} = \frac{28}{9}$

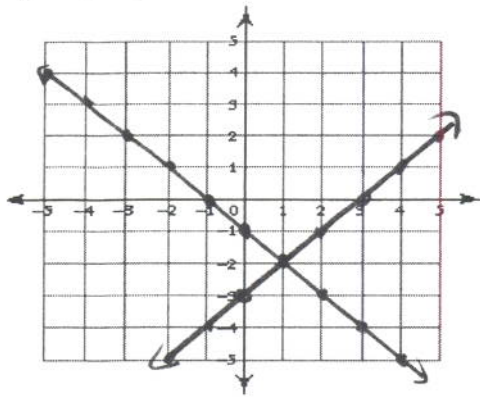
7. Bob has saved 32 gummi bears. His mom gives him 3 gummis every 2 days.

What is the rate of change?

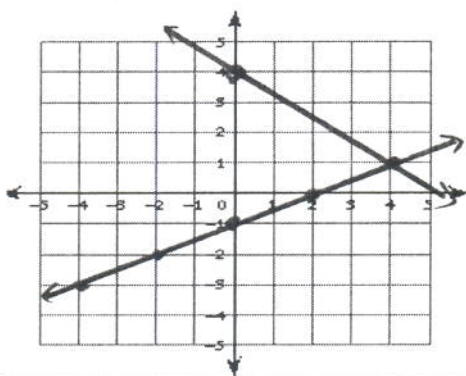
$\frac{3}{2}$

$y = mx + b$. Graph the following. Determine the point where the lines intersect!

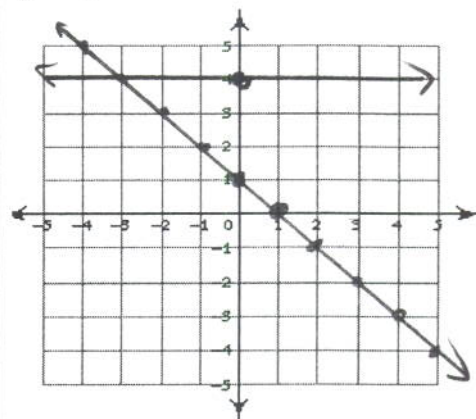
$y = -x - 1$ (1, -2)
 $y = x - 3$



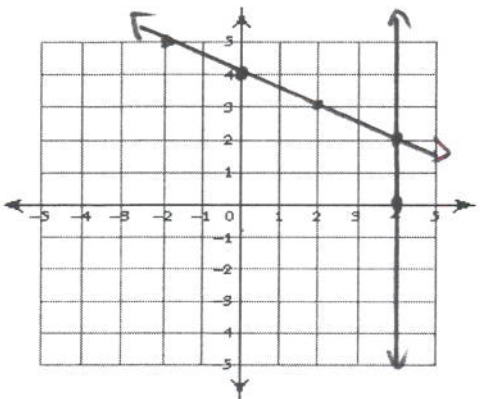
$y = \frac{1}{2}x - 1$ (4, 1)
 $y = -\frac{3}{4}x + 4$



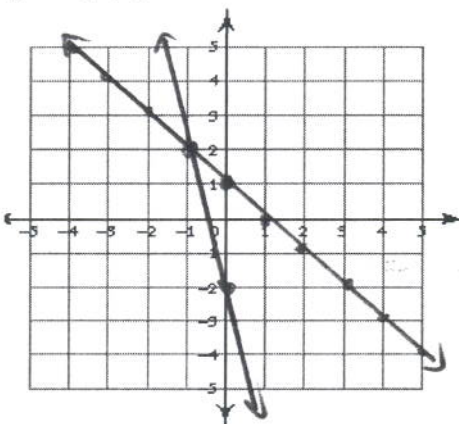
$y = -x + 1$ (-3, 4)
 $y = 4$



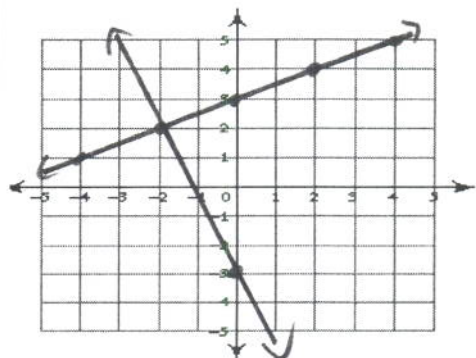
$y = -\frac{1}{2}x + 4$ (4, 2)
 $x = 4$



$y = -4x - 2$ (-1, 2)
 $y = -x + 1$



$y = \frac{1}{2}x + 3$ (-2, 2)
 $y = -\frac{5}{2}x - 3$



8. Is the point (-3, 5) a solution to $y = \frac{2}{3}x + 7$?

SHOW WORK!

$$5 = \frac{2}{3}(-3) + 7$$

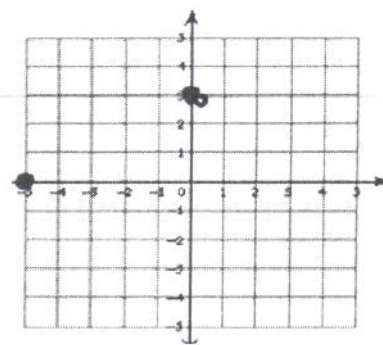
$$5 = -2 + 7$$

$$5 = 5$$

YES!

9. Graph a line with

x-intercept = -5
 y-intercept = 3



10. Given $f(x) = \frac{3}{4}x - 6$

Find $f(8) = \frac{3}{4}(8) - 6 = 6 - 6 = 0$

Find x so that $f(x) = 18$
 $18 = \frac{3}{4}x - 6$
 $24 = \frac{3}{4}x$
 $x = 32$

11. Given $h(x) = \frac{2}{3}x - 4$ fill in the table.

x	h(x)
12	4
-3	-6
5 42	24

$\frac{2}{3}(12) - 4 = 8 - 4 = 4$
 $\frac{2}{3}(-3) - 4 = -2 - 4 = -6$
 $24 = \frac{2}{3}x - 4$
 $28 = \frac{2}{3}x$
 $x = 42$

12. Solve for y then state the slope of the line. $4x - 3y = 15$

$m = \frac{4}{3}$

$4x - 3y = 15$
 $-3y = 15 - 4x$
 $y = -5 + \frac{4}{3}x$

$xx = x \times = 42$

Application

Tony

Tony has 2 dance moves down perfect, the robot and the centipede. Every week he learns 3 new dance moves.

1. What is the y-intercept? 2
2. What does the y-intercept mean?
started with 2 dance moves
3. What is the rate of change?
 $\frac{3}{1} = 3$
4. Write the equation to model this.
 $y = 2 + 3x$ or $y = 3x + 2$
5. Graph this equation below.
6. How many dances move will Tony have in 5 weeks? SHOW STEPS TO SOLVE THIS!

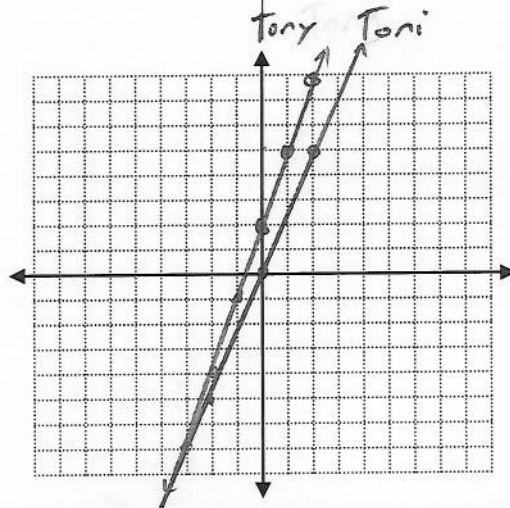
$$y = 2 + 3x$$

$$y = 2 + 3(5)$$

$$y = 2 + 15$$

$$y = 17$$

17 dance moves



Toni

Toni doesn't know any dance moves. She learns 5 moves every 2 weeks.

7. What is the initial value (start)? Label it. 0
8. What is the slope. $\frac{5}{2}$
9. What does the slope mean?
(AKA use your slope in a sentence with labels)
She learns 5 moves every 2 weeks
10. Write the equation to model this.
 $y = \frac{5}{2}x + 0$ or $y = \frac{5}{2}x$
11. Graph this equation below.
12. When will Toni have 20 dance moves? SHOW STEPS TO SOLVE THIS!

$$y = \frac{5}{2}x$$

$$20 = \frac{5}{2}x$$

$$\frac{5}{2} = \frac{5}{2}$$

$$20\left(\frac{2}{5}\right) = \frac{5}{2}x\left(\frac{2}{5}\right)$$

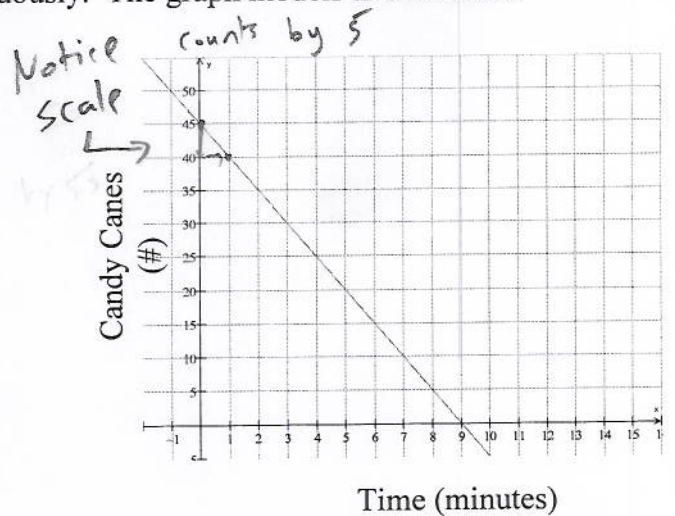
$$8 = x$$

8 weeks

Use the graph to answer the following:

Mr. Brust buys a box of candy canes. He eats them continuously. The graph models this situation.

13. What is the slope of the line? $-\frac{5}{1} = -5$
14. What does the slope mean?
(AKA use your slope in a sentence with labels)
eats 5 candy canes every minute
15. What is the y-intercept? 45
16. What does the y-intercept mean in this situation?
Started with 45 candy canes
17. What is the x-intercept? 9
18. What does the x-intercept mean in this situation?



in 9 minutes all candy canes are gone