Unit 2 Review KEY

1. Identify each of the equations as being in slope-intercept form, point slope form or standard form.

$y = 2x - 1$	$y + 2 = -(x + 4)$	$4x - 2y = 8$
slope-intercept	point-slope	standard

2. The rate of change is constant in the table.
Find the rate of change.
Explain what the rate of change means.

People	Cost
8	16.00
9	18.00
10	20.00

1 → 2, 1 → 2

Rate of Change $2/1 = 2$

What does the rate of change mean for this situation?

Each person costs $2.

3. What is the slope of a horizontal line?

What is the slope of a vertical line?

Horizontal $m = 0$

Vertical m = undefined

4. Use the slope formula to find the missing coordinate

$m = \frac{y_2 - y_1}{x_2 - x_1}$

(-5, 8) and (-3,y)

m = 5

$5 = \frac{y-8}{-3-5}$

$\frac{5}{1} = \frac{y-8}{2}$

$y - 8 = 10$
$+8 \quad +8$
$y = 18$

Missing coordinate: $y = 18$

5. Write an equation of the line with the given slope and y-intercept.

m= -3
b = 5

$y = mx + b$

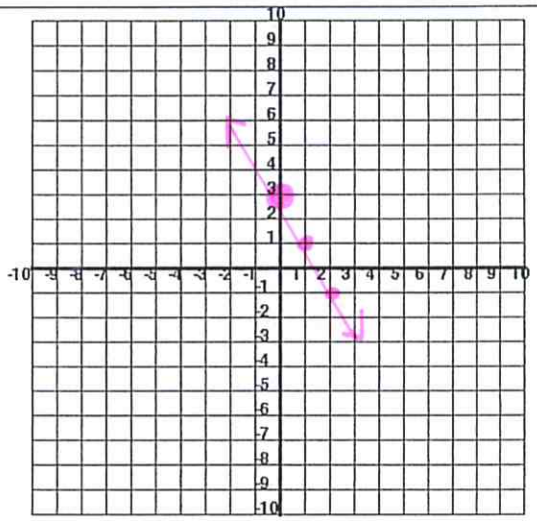
$y = -3x + 5$

Equation: $y = -3x + 5$

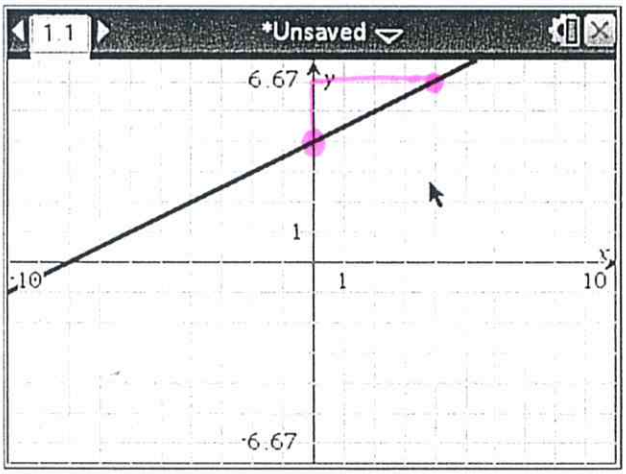
6. Graph y= -2x + 3

m= -2

b= 3



7. Write the equation of the line



m= 2/4 = 1/2 b= 4

Equation: y = 1/2x + 4

8.

X	Y
-6	10
-4	13
-2	16
0	19
2	21

2 < > 3
2 < > 3
2 < > 3
2 < > 2

Linear? Yes (No)

m = _____

y-intercept = _____

equation y = mx + b: _____

9. Determine if each ordered pair is a solution to the function. $f(x) = -5x + 1$

Ordered Pair	Work or Explanation	Solution?
(0, 1)	$f(0) = -5(0)+1 = 1$	Yes
(2,-9)	$f(2) = -5(2)+1 = -9$	Yes
(-2,11)	$f(-2) = -5(-2)+1 = 11$	Yes
(-2, -3)	$f(-2) = -5(-2)+1 = 11$	No

10. A line passes through the given points. Write an equation in point slope form.

(-3, -2), (7, 1)

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - -2}{7 - -3} = \frac{3}{10}$

$y - -2 = \frac{3}{10}(x - -3)$

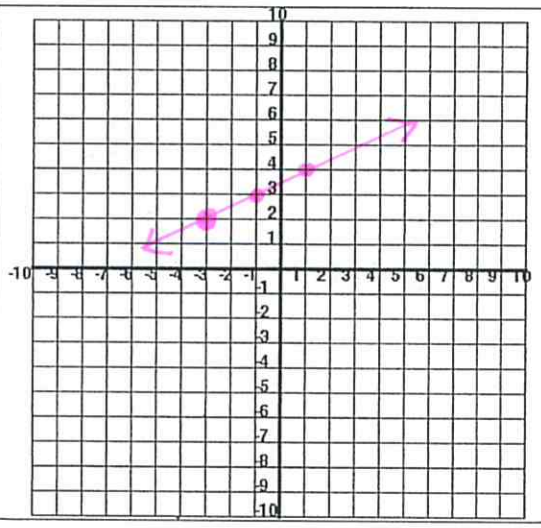
$y + 2 = \frac{3}{10}(x + 3)$

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

11. Graph the equation $y - 2 = \frac{1}{2}(x + 3)$

$m = 1/2$

point $= (-3, 2)$



12. Identify the slope and a point from the given equation.

$y + 6 = 2(x - 2)$

$m = 2$

point $= (2, -6)$

M = 2

Point: $(2, -6)$

13. Graph $3x - 5y = 15$

X	Y
0	-3
5	0

$3(0) - 5y = 15$

$-5y = 15$

$\frac{-5y}{-5} = \frac{15}{-5}$

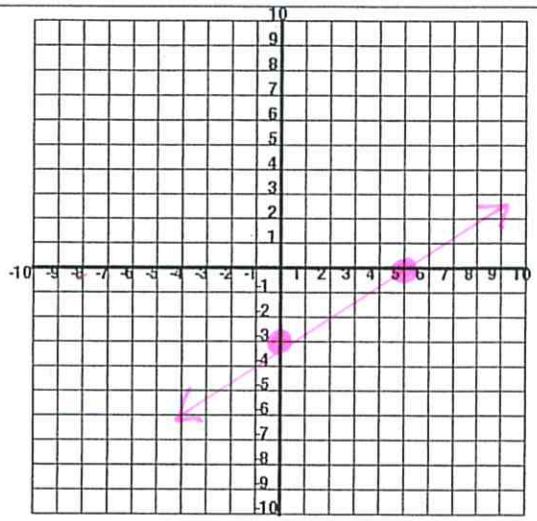
$y = -3$

$3x - 5(0) = 15$

$3x = 15$

$\frac{3x}{3} = \frac{15}{3}$

$x = 5$



14.

The ninth grade class holds a car wash to raise money to send Mrs. Talley to try out for The Voice. A wash costs $5 per car and $6 per truck. Write an equation in standard form to relate the number of cars and trucks the students must wash to raise $3,000.00. If 300 cars are washed how many trucks need to be washed in order to raise the ~~$1000.00~~ $3,000

Let x = # cars let y = # trucks

$5x + 6y = 3{,}000$

$5(300) + 6y = 3{,}000$

$1{,}500 + 6y = 3{,}000$

$-1{,}500 \quad -1{,}500$

$\frac{6y}{6} = \frac{1{,}500}{6}$

$y = 250$

Equation: $5x + 6y = 3{,}000$

Solution: 250 trucks must be washed.