

Unit 11 Video Notes

Name _____

Math 8: Slope-Intercept Form

Directions: Fill in the blanks below as you watch the video.

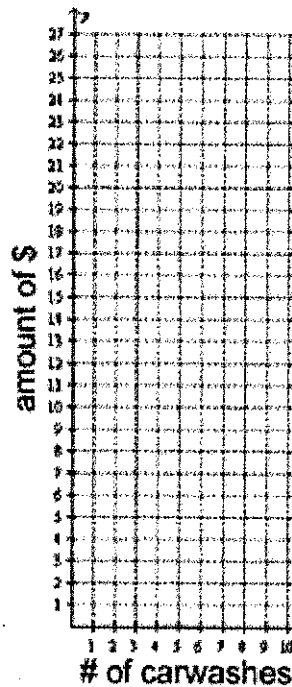
Coco's Carwash

# of cars		cost

Equation:

$y =$ _____

Graph:



Based on the graph, what is the slope? _____

At what number does the line cross the y-axis in the graph?

New Idea: y-intercept

The y-intercept is the _____ where the _____ crosses the _____.

How are the slope and y-intercept related to the equation of

Coco's Carwash's new business plan?

Equation: _____
Slope = _____ y-intercept = _____

New Idea: Slope-Intercept Form

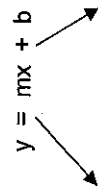
$y =$ _____

What does "m" mean? _____

What does "b" mean? _____

Super-Duper Important!

Slope-Intercept Form:



Identify the slope and y-intercept from each equation below.

- a) $y = 2x - 1$ slope = _____ y-intercept = _____
- b) $y = -1/3x$ slope = _____ y-intercept = _____
- c) $y = x + 4$ slope = _____ y-intercept = _____
- d) $y = -6x - 5$ slope = _____ y-intercept = _____

Math 8: Writing Slope-Intercept Form

Directions: *Fill in the blanks below as you watch the video.*

How do you write an equation in slope-intercept form?
(given a slope & a y-intercept)

Substitute (plug in) the slope & y-intercept you are given into the equation $y = mx + b$.

Example 1: Write the equation of the line with the given slope & y - intercept.

- a) slope = 2 y-intercept = -1 y = _____
- b) slope = -1/2 y-intercept = 0 y = _____
- c) slope = 1 y-intercept = -4 y = _____

You Try 1: Write the equation of the line with the given slope & y-intercept.

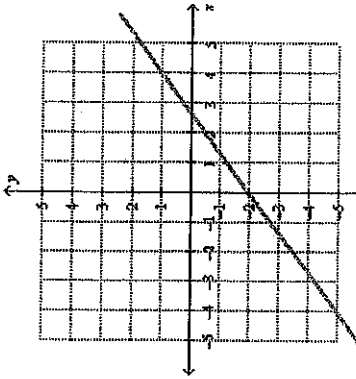
- a) slope = 2/5 y-intercept = 6 y = _____
- b) slope = -5 y-intercept = 0 y = _____
- c) slope = -1 y-intercept = 3 y = _____

How do you write an equation in slope-intercept form? (given a graph)

- 1) Identify the y-intercept (where the line crosses the y-axis).
- 2) Find the slope (rise/run).
- 3) Substitute (plug in) those values into the equation $y = mx + b$.

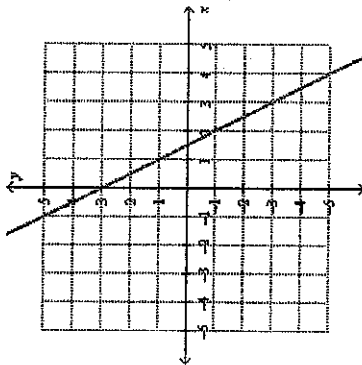
Math 8: Graphing Linear Equations

Directions: Fill in the blanks below as you watch the video.



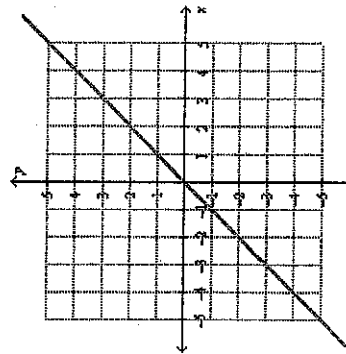
Example 2: Write the equation of the line.

- 1) What is the y-intercept? _____
- 2) What is the slope? _____
- 3) What is your equation? $y = \underline{\hspace{1cm}} x + \underline{\hspace{1cm}}$



Example 3: Write the equation of the line.

- 1) What is the y-intercept? _____
- 2) What is the slope? _____
- 3) What is your equation? $y = \underline{\hspace{1cm}} x + \underline{\hspace{1cm}}$



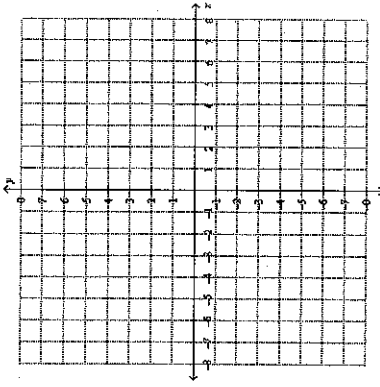
You Try 1: Write the equation of the line.

- 1) What is the y-intercept? _____
- 2) What is the slope? _____
- 3) What is your equation? $y = \underline{\hspace{1cm}} x + \underline{\hspace{1cm}}$

4

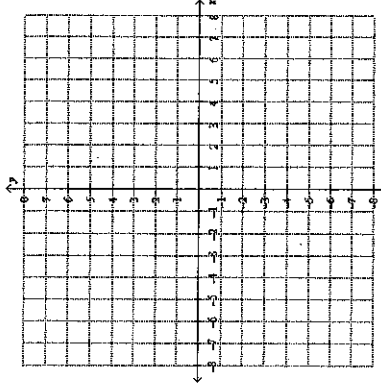
Steps for Graphing Linear Functions

1. Solve the equation for y.
2. Identify the slope & the y-intercept.
3. Graph the y-intercept.
4. Use the slope to graph another point on the line.
5. Connect the two points with a line.



Example 1: Graph $y = 2x - 3$.

slope = _____
y-intercept = _____



You Try 1: Graph $y = -\frac{3}{4}x$.

slope = _____
y-intercept = _____

5

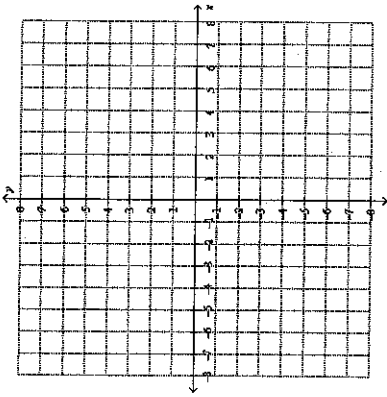
Math 8: Different Representations of Linear Equations

Directions: Fill in the blanks below as you watch the video.

When comparing different representations, look at the _____ and _____ for each one.

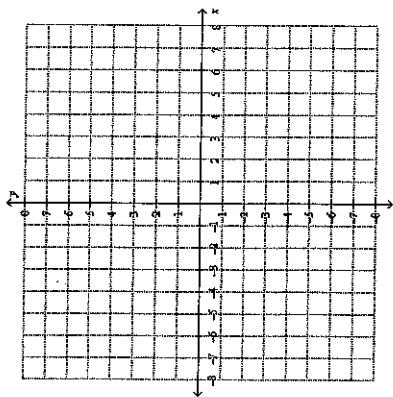
slope = _____
y-intercept = _____

Example 2: Graph $-3x + 2y = -6$.



You Try 2: Graph $4x + 2y = 8$

slope = _____
y-intercept = _____



Example 1:
Does the table below represent the linear function $y = 4x$?

Equation:
slope = _____
y-intercept = _____

x	y
0	0
1	4
2	8
3	12

Table:
slope = _____
y-intercept = _____

You Try 1:
Does the table below represent the linear function $y = 2x - 1$?

Equation:
slope = _____
y-intercept = _____

Table:
slope = _____
y-intercept = _____

x	y
0	0
1	2
2	4
3	6

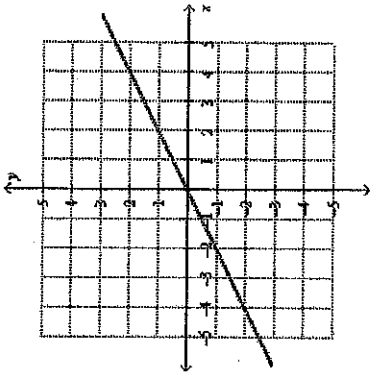
Example 2:
Does the graph represent the linear function $y = 4x$?

Equation:
slope = _____

y-intercept = _____

Graph:
slope = _____

y-intercept = _____



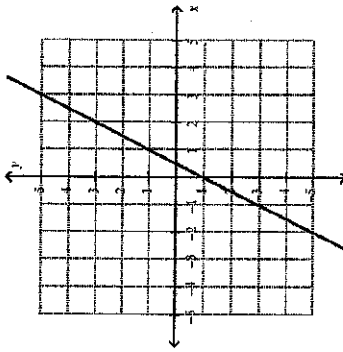
You Try 2:
Does the graph below represent the linear function $y = 2x - 1$?

Equation:
slope = _____

y-intercept = _____

Graph:
slope = _____

y-intercept = _____



Example 3: Do the table and graph represent the same linear function?

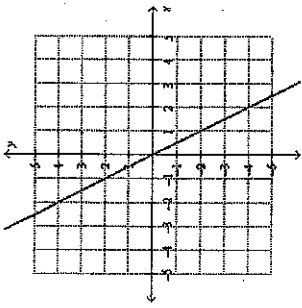
Table:
slope = _____

y-intercept = _____

Graph:
slope = _____

y-intercept = _____

x	y
0	2
1	3
2	4
3	5



You Try 3:
Do the table and graph represent the same linear function?

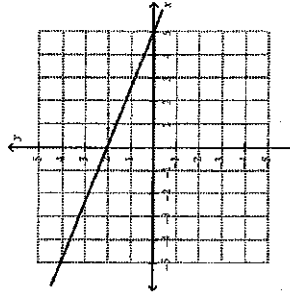
Table:
slope = _____

y-intercept = _____

Graph:
slope = _____

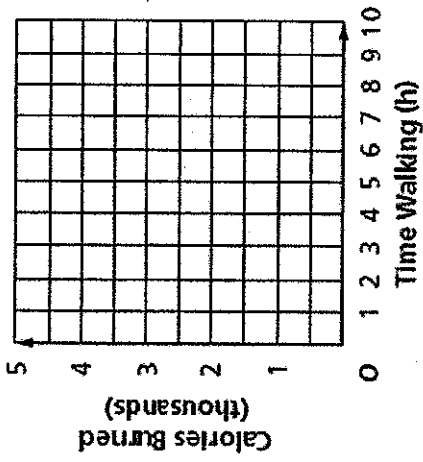
y-intercept = _____

x	y
0	2
1	-1
2	-2
3	-3



Example 2

A person weighing 150 pounds burns about 320 Calories per hour walking at a moderate pace. Suppose that the same person burns an average of 1500 Calories per day through basic activities. The total Calories y burned by that person can be represented by ...



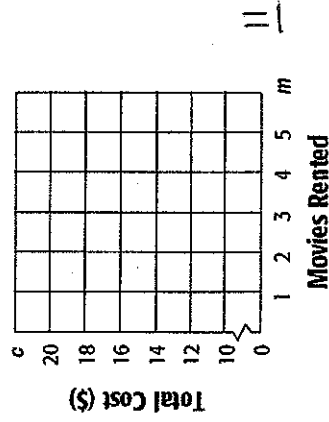
- what equation?
- what graph?
- How many calories would this person burn after walking 5 hours?

Example 3: You Try!

VIDEO RENTALS A video store charges \$10 for a rental card plus \$2 per rental.

- Write an equation in slope-intercept form for the total cost c of buying a rental card and renting m movies.

Video Store Rental Costs



- Write an equation in slope-intercept form for the total cost c of buying a rental card and renting m movies.
- Graph the equation.
- Find the cost of buying a rental card and 6 movies.

Math 8: Real-Life Representations of Linear Equations

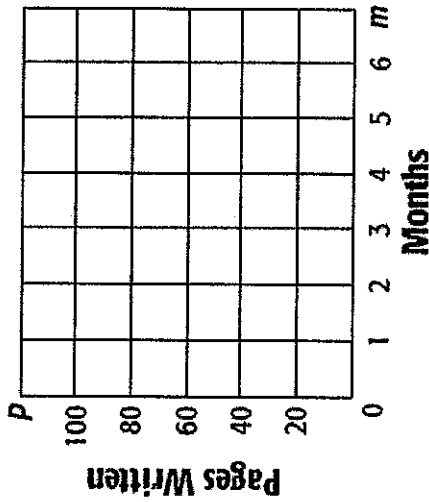
Directions: Fill in the blanks below as you watch the video.

Example 1

Carla has already written 10 pages of a novel. She plans to write 15 additional pages per month until she is finished.

- Write an equation to find the total number of pages P written after any number of months m .

Carla's Novel



- Graph the equation.
- Find the total number of pages written after 5 months.