# Slope from a Table

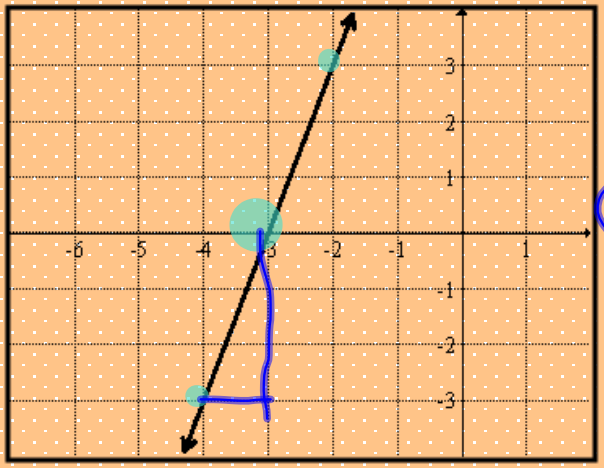
## Agenda

Warm-Up
HW Check
Notes
(Slope Book)
Homework

Turn in bathroom passes!!! Make sure your name is legible.

## Warm-Up

Given the following graph, find the slope.




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

$m = 3$

Fill in a table with three perfect points from the graph

| x | y |
|---|---|
| -4 | -3 |
| -3 | 0 |
| -2 | 3 |

Is there a way to get the slope from the table instead of the graph?

Answers:

1. $\frac{4}{5}$
2. $\frac{-1}{2}$
3. Vertical line
4. Horizontal line
5. (3, 1), (-3, 9), (6, -3), (9, 7) are possible answers.
6. (2, 2), (3, -2), (4, -6), (0, 10) are possible answers.
7. $\frac{-50}{3}$ In this situation, he reads 50 pages every three days.
8. $\frac{6}{60} = \frac{1}{10}$ In this situation, 10 gallons of sap makes one quart of maple syrup.
9. B
10. E
11. D
12. A

# Congratulations 2nd period!!

## Winners of HW Turn-In Challenge 2nd six weeks

| 1st 6 weeks |
| --- |
| 2nd - 84% |
| 3rd - 77% |
| 4th - 87% |
| 5th - 84% |
| 7th - 56% |

| 2nd 6 weeks | |
| --- | --- |
| 2nd - 82.2% | 86 |
| 3rd - 76.2% | 80 |
| 4th - 80.6% | |
| 5th - 78.4% | |
| 7th - 71.0% | |

# Finding Slope...

1. An electronics company has several factories that make stereos. Each factory produces the stereos at a steady pace throughout the day.

A. Over a period of 8 hours, Factory A produces 400 stereos. Complete the table.

400 / 8

| Time (H) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Stereos Produced | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 |

B. Over a period of 6 hours, Factory B produces 360 stereos. Complete the table.

360 / 6

| Time (H) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Stereos Produced | 60 | 120 | 180 | 240 | 300 | 360 | 420 | 480 |

C. How many stereos does each factory produce per hour?

$m = \frac{\Delta y}{\Delta x}$

change =

A: 50 stereos per hours

B: 60 stereos per hour

D. Graph a linear function for each of the factories on the coordinate plane.

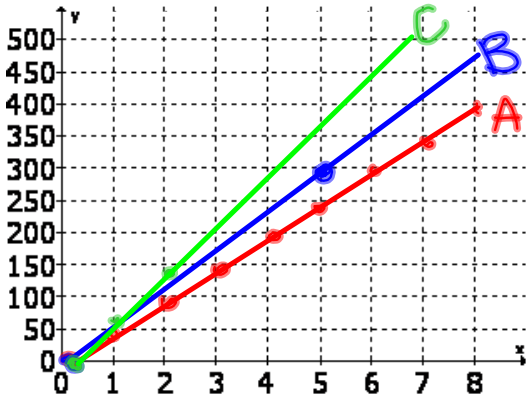
E. From the table and graph find the domain and range of each factory.

Domain: $0 \leq x \leq 8$

Range: $0 \leq x \leq 8$

$0 \leq y \leq 400$

$0 \leq y \leq 480$




F. How would a graph for Factory C, which produces 75 stereos per hour, compare to the other two factories' graphs?

steeper

# SLOPE= $\frac{\text{RISE}}{\text{RUN}} = \frac{\Delta y}{\Delta x}$

FIND THE SLOPE OF THE FOLLOWING:

2.

| x | 0 | 4 | 8 |
|---|---|---|---|
| y | 1 | 4 | 7 |

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

3.

| x | y |
|---|---|
| 1 | 3.75 |
| 2 | 5 |
| 3 | 6.25 |
| 4 | 7.50 |
| 5 | 8.75 |

+1 +1.25, +1 +1.25, +1 +1.25, +1 +1.25

$m = \frac{+1.25}{+1}$ FRACTION MATH 1: Frac enter

4.

| x | y |
|---|---|
| -3 | 10 |
| 0 | 8 |
| 6 | 4 |
| 18 | -4 |

+3 +6 +12, -2 -4 -8, $m = \frac{-2}{3}$

5.

| x | y |
|---|---|
| -3 | 5 |
| 0 | 5 |
| 3 | 5 |
| 6 | 5 |

+3 +3 +3, +0 +0 +0, $m = \frac{0}{3} = 0$ horizontal

6.

| x | -2 | -2 | -2 |
|---|---|---|---|
| y | 1 | 4 | 7 |

+0 +0, +3 +3, $m = \frac{3}{0}$ = Undefined vertical

...from a table

7. On the second day, Oscar had 200 pages of his book left to read, while on the fourth day he had 150 pages left. Complete the table, including what the independent and dependent variables represent in this situation. Find the slope and tell what it represents in this situation.

| x | y |
|---|---|
| DAYS | PAGES |
| 2 | 200 |
| 4 | 150 |
| | |
| | |

+2 -50

$m = \frac{-50}{+2} = \frac{-25}{1}$

Oscar reads 50 pages every 2 days.

I will hand out exit ticket @ 11:35.

Algebra I - Unit 3

**Practice – Slope from a Table** pp 320-325

Name _____ Date _____ Period _____

**Find the rate of change on the following tables.**

1.

| x | y |
|---|---|
| 1 | 4 |
| 2 | 2 |
| 3 | 0 |
| 4 | -2 |

_____

2.

| x | -2 | 1 | 5 | 7 |
|---|---|---|---|---|
| y | 34 | 37 | 41 | 43 |

_____

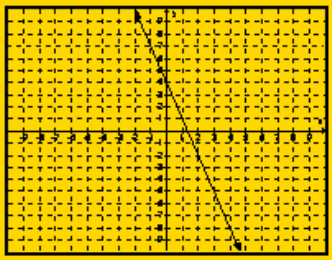
3.

| x | y |
|---|---|
| -3 | 6 |
| 3 | -2 |
| 6 | -6 |
| 12 | -14 |

_____

4. Given the following graphs, make a table of values and find the rate of change.

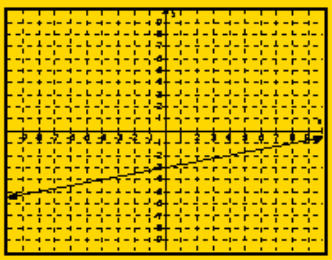
a.



| x | y |
|---|---|
| | |
| | |
| | |

_____

b.



| x | y |
|---|---|
| | |
| | |
| | |

_____

5. Given the two points, (-2, -1) and (4, 2), make a table and determine the slope.

6. In two hours a bus travels 100 miles while in three hours a bus travels 150 miles. Fill in the table, including what the independent and dependent variables are for this situation. Find the slope and explain what it represents for this situation.

| x | y |
|---|---|
| | |
| | |

## Algebra I - Unit 3

7. Which of the following tables best represent a linear function with a rate of change of $\frac{3}{4}$?

A

| x | y |
|---|---|
| -3 | -4 |
| 0 | 0 |
| 3 | 4 |

B

| x | y |
|---|---|
| 1 | 2.50 |
| 3 | 4 |
| 4 | 4.75 |

C

| x | y |
|---|---|
| 0 | 1.75 |
| 6 | 9.75 |
| 9 | 13.75 |

D

| x | y |
|---|---|
| -4 | 1 |
| 0 | -2 |
| 4 | -5 |

8. Determine the slope from the table.

| Time (seconds) | 3 | 21 | 30 | 42 |
|---|---|---|---|---|
| Number of letters texted | 2 | 14 | 20 | 28 |

9. Create a table with a rate of change of $\frac{1}{2}$.

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

10. Which of the following tables has a slope of $\frac{-4}{5}$?

A B

| x | y |
|---|---|
| -6 | 7.5 |
| -4 | 5 |
| -2 | 2.5 |
| 6 | -7.5 |
| 10 | -12.5 |

C

| x | y |
|---|---|
| -6 | -4.8 |
| -2 | -1.6 |
| 4 | 3.2 |
| 10 | 8 |
| 12 | 9.6 |

D

| x | y |
|---|---|
| -3 | -3.75 |
| -1 | -1.25 |
| 5 | 6.25 |
| 10 | 12.5 |
| 14 | 17.5 |

| x | y |
|---|---|
| -5 | 4 |
| -1 | 0.8 |
| 4 | -3.2 |
| 11 | -8.8 |
| 13 | -10.4 |

1. The total cost of an item at a store is the price of the item plus 6.5% sales tax. If c, the total cost of the item, is a function of x, the price of the item,
which function models this situation?

A. $c = x + 6.5$

B. $c = 6.5x$

C. $c = 1.065x$

D. $c = x + 1.065$

2. A long distance telephone company charges $4.95 per month and $0.07 per minute for phone calls. What is the dependent variable quantity in this situation?

A The cost per minute for a long distance call

B The total cost for a 10-minute long distance call

C The total monthly charge for long distance service

D The number of minutes of a long distance call

3. A baseball team played a total of 162 games last season. The number of games the team lost, l, and the number of games the team won, w, are represented by the formula below, l = 162 – w. What quantity does the dependent variable represent?

A. Number of total games

B. Number of games lost

C. Number of games won

D. Number of people on the team