February 24, 2015

1st
2nd

Starter

You are in a hallway lined with 100 lockers.
You begin by opening every locker.
Your friend goes behind you and closes every second locker.
You start at the beginning of the hall again and at every third locker, you do the opposite of what it is - you close the open ones and open the closed ones.
Your friend goes behind you and, at every fourth locker, does the opposite of what it is - closes the open ones and opens the closed ones.

This process and pattern continue until each of you have gone down the hall 50 times (100 times total).

At this point, which lockers are still open?

Kristen

2/24 - More Slope - computing algebraically

What is the definition of **slope**?

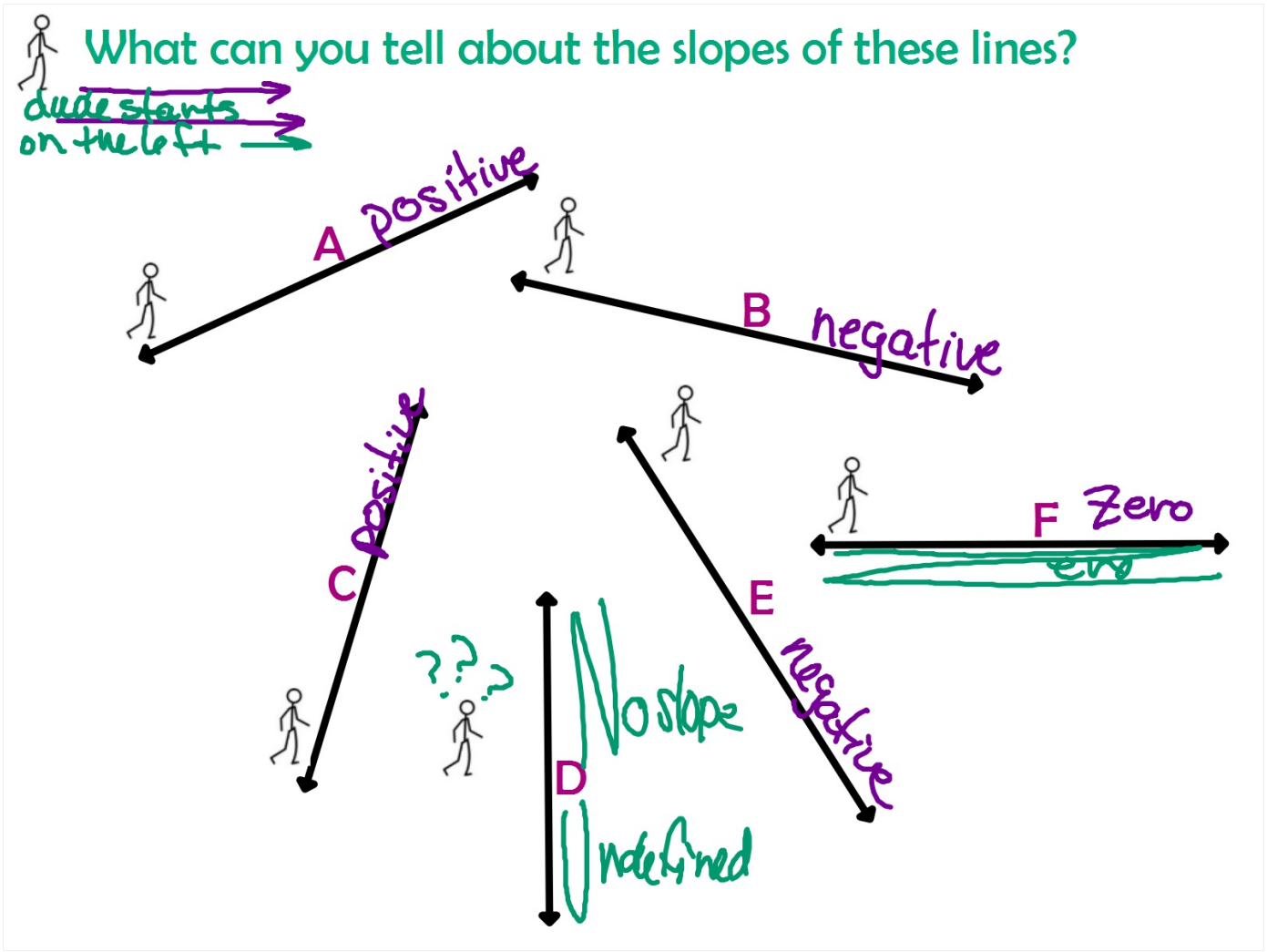
How steep the line is

How do you find the slope of a line on a graph?

Find 2 points then count ~~up~~ over then simplify $\frac{\text{RISE}}{\text{RUN}}$

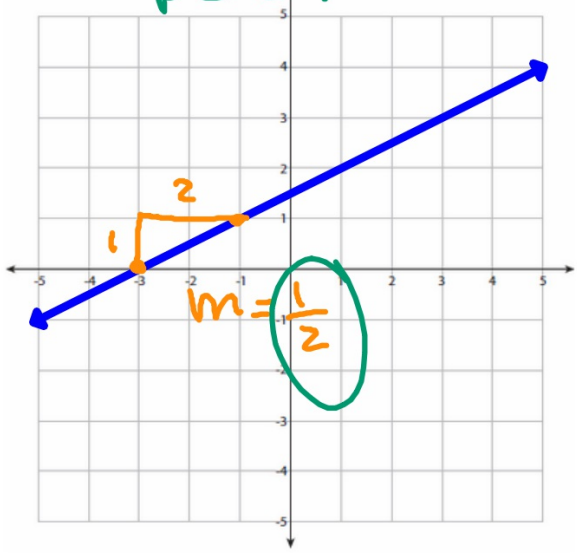
There are 3 different types of slopes we've not covered yet...

1. Negatives
2. Zero
3. No Slope/Undefined

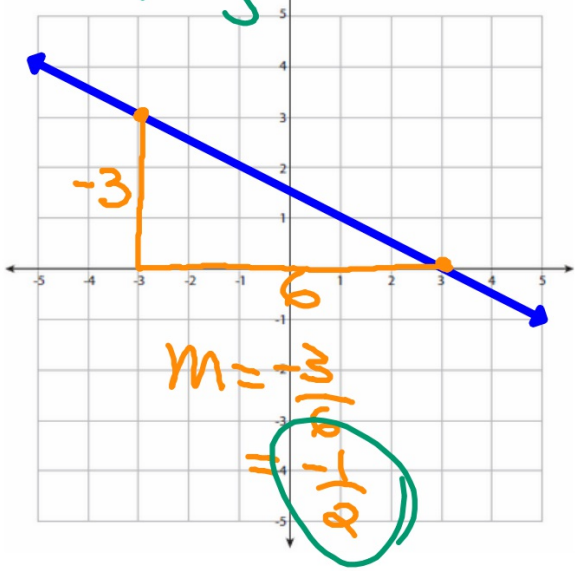

What can you tell about the slopes of these lines?
dude starts on the left
A positive
B negative
C positive
D No slope
Undefined
E negative
F Zero
zero

What can you tell about the slopes of these two lines?

positive

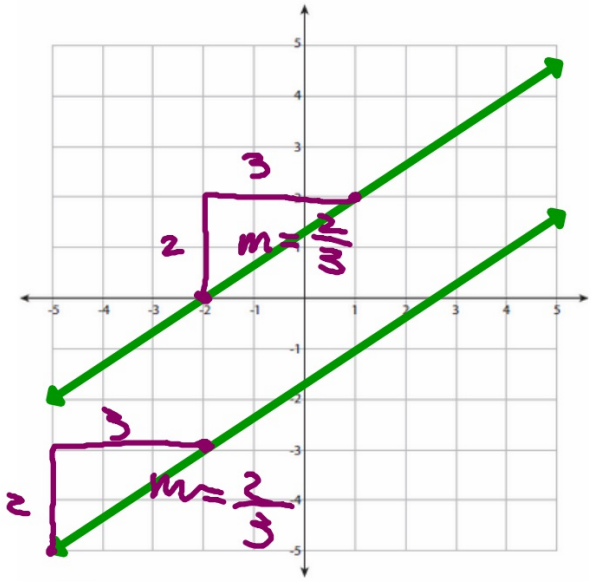


negative



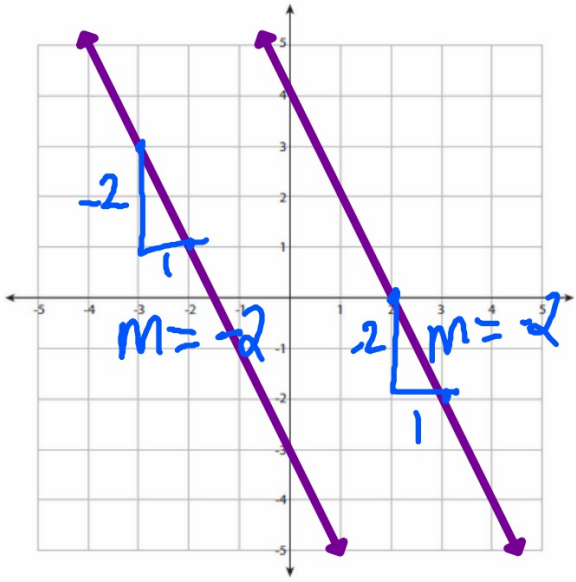
What about these two?

parallel – never intersect

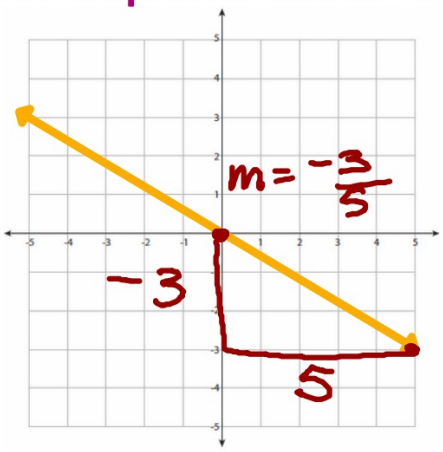


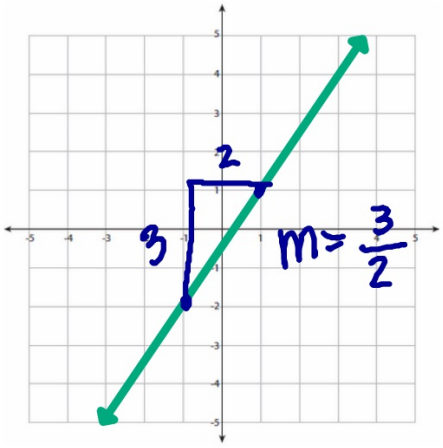
Parallel lines have the same slopes.

or these two?

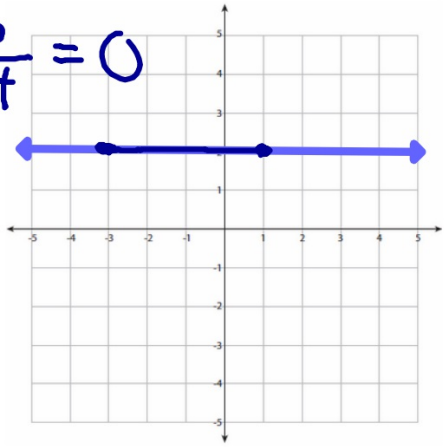


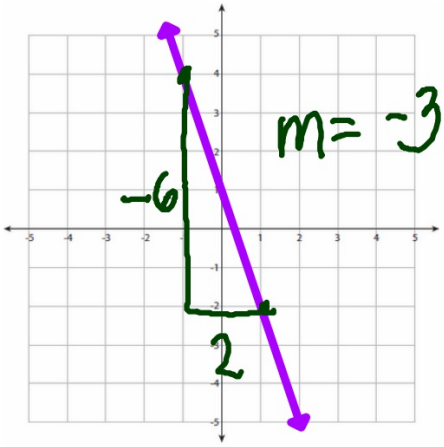
Find the slopes of these lines:





$\frac{\text{Rise}}{\text{Run}} = \frac{0}{4} = 0$





You can do it algebraically, without a graph, if you have **two points** written as **coordinates**.

(x_1, y_1) and (x_2, y_2)

1st point 2nd point

Slope Formula

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

Find the slopes of the lines that go through each set of points.

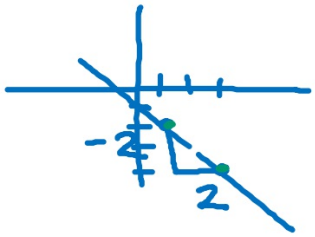
$(1,-2)\ (3,-4)$

$m = \frac{-4-(-2)}{3-1}$

$= \frac{-4+2}{3-1}$

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

$= -1$



Slope Formula

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

$(-2,-4)\ (3,1)$

$m = \frac{1+(+4)}{3+(+2)}$

$= \frac{5}{5}$

$= 1$

$(-3,4)(1,-2)$

$m = \frac{-2-4}{1-(-3)}$

$= \frac{-6}{4}$

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

Homework

Cherry WS10

Due Wednesday