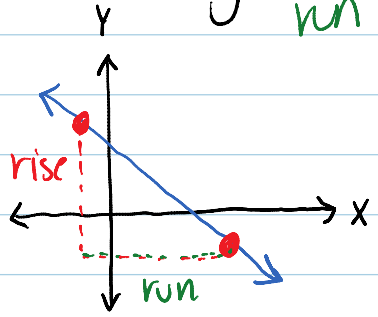
Chapter #6 Linear Functions

December-16-13
10:58 AM

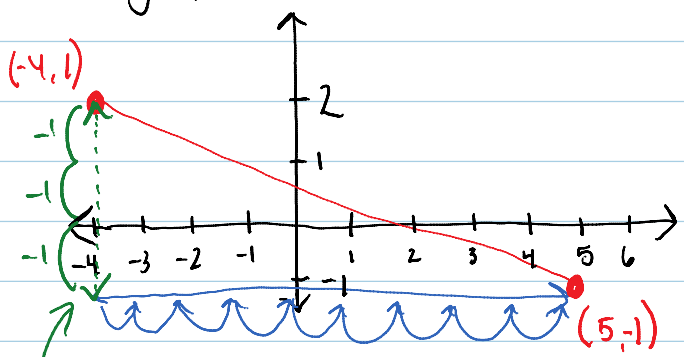
6.1 Slope of a Line

slope: - a measure of how 1 quantity changes with respect to the other
- it can be determined by calculating $\frac{\text{rise}}{\text{run}}$

rise → vertical distance
run → horizontal distance



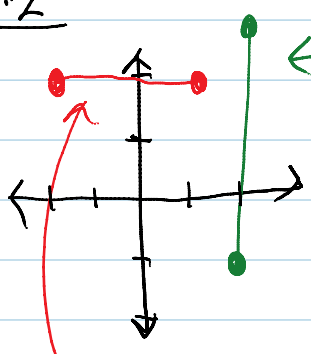
Ex. #1 graphs



$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{-3}{9} = \boxed{\frac{-1}{3}}$

line segment is going down to the right
= y decreases, therefore rise is negative
= x increases

Ex. #2



← undefined slope because

$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{4}{0}$ ← fractions

zero denominator means undefined

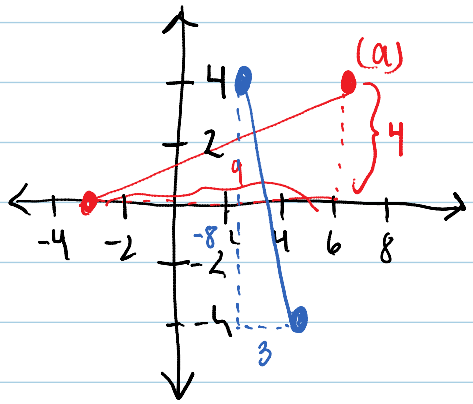
undefined

slope !!

Ex. #3. Draw a line segment with each slope

(a.) $\frac{4}{9}$

(b.) $-\frac{8}{3}$



you can choose any points on the graph!

To find the slope of any line, use the formula

$$\text{slope of line } AB = \frac{y_2 - y_1}{x_2 - x_1}$$

Ex. #4 Find the slope of a line that passes thru E(4, -5) and F(8, 6)

E(4, -5) F(8, 6)

x_1 y_1 x_2 y_2

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - (-5)}{8 - 4} = \frac{11}{4}$$

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