October 13, 2015

* Quiz #6 – Tomorrow
9.2 – Functions

Oct 13-10:05 AM

9.1 Linear Functions

Lines

① Standard Form

$ax + by = c$

where a, b, & c are Integers

② Slope-Intercept Form

$y = mx + b$

③ Point-Slope Form

$y - y_1 = m(x - x_1)$

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$f(x) = c \rightarrow f(x) = 5$ Constant

$f(2) = 5$

$f(x) = x \rightarrow$ Line

$f(x) = x^2 \rightarrow$ Curve

$f(x) = x^3 \rightarrow$ "

$f(x) = \sqrt{x} \rightarrow$

$f(x) = |x| \rightarrow$

$f(x) = \frac{1}{x} \rightarrow$

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S.F.

$\underset{a}{2}x + \underset{b}{4}y = \underset{c}{8}$

Slope-Intercept

$2x + 4y = 8$

$4y = -2x + 8$

$y = \boxed{-\frac{1}{2}}x \boxed{+2}$

$m \quad b$

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Lines

H.R.

m

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* Constant Rate of Change

the Slope of the line

Vertical Change: $\Delta y$

$y_2 - y_1$

$(x_2, y_2)$ ②

$(x_1, y_1)$ ①

slope

$x_1 \quad x_2$

Horizontal Change: $\Delta x$

$x_2 - x_1$

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

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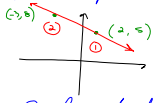
## Calculate Slope

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

$(x_1, y_1) = (2, 5)$ & $(x_2, y_2) = (-3, 8)$

**Steps**

① Plot Points & Graph




② Calculate Slope m

$$m = \frac{8 - 5}{-3 - 2} = \frac{3}{-5} = -\frac{3}{5}$$

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