

5.6: Direct Variation P.2 1/3

E.Q: How can we use an equation or a graph to show if x & y vary ~~not~~ directly.

direct variation: when 2 variables are proportional. "Vary directly"

direct variation equation: $y = C(x)$
 C constant

multiply 1 variable by a # to get the value of the other variable

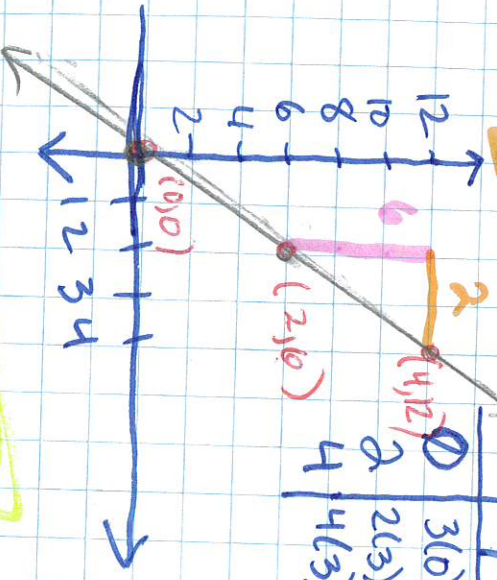
good $w = 4r$ $S = 7g$ $Z = 5L$ $m = \frac{3}{4}n$ $y = 7x$

NOT direct variation when something is added or subtracted:

Ex. 1

$y = 3x$

X	Y
0	$3(0) = 0$
2	$2(3) = 6$
4	$4(3) = 12$

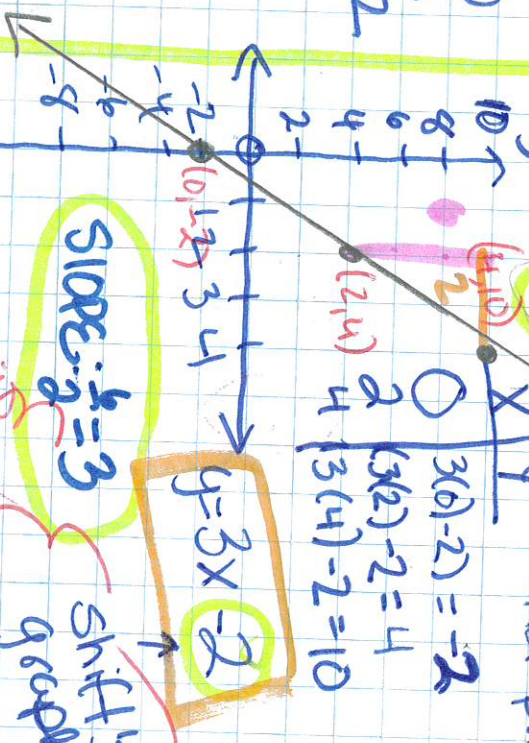


Slope: $\frac{6}{2} = 3$

Ex. 2

$y = 3x - 2$

X	Y
0	$3(0) - 2 = -2$
2	$3(2) - 2 = 4$
4	$3(4) - 2 = 10$



Slope: $\frac{6}{2} = 3$

NOT Proportional not included

Shifts down, more go through (b,0)

constant of proportionality

$$y = 4x$$

↳ whatever we multiply x by to get y

↳ also slope

↳ also unit rate

Solve for y

$$\frac{3y}{3} = \frac{x}{3}$$

$$y = \frac{1}{3}x$$

↳ can't start of proportionality
↳ slope
↳ unit rate.

$$y + 7 = 2x - 7$$

$$y = 2x - 14$$

↳ cannot be adding or subtracting to be proportion vary directly.

$$y = \frac{1}{2}x$$

a#

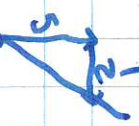
$$x = \frac{2}{5}y$$

$$y = \frac{5}{2}x$$

$$y = \frac{5}{2}x$$

constant of proportionality = $\frac{5}{2}$

$$\text{slope} = \frac{5}{2}$$



unit rate = $\frac{5}{2}$ or $\frac{2.5}{1}$

Ex. 5 Finding Slope From 2 points

(0,0) (4,3)

Top Point 4, 3
lower Point 0, 0

$$x \rightarrow 4 - 0 = 4$$

$$y \rightarrow 3 - 0 = 3$$

Slope = $\frac{3}{4}$