

10/9 Algebra - Downing

Bellwork

Ex) Write the Domain + Range for each. Does it represent a linear function?

		+2	+4	+8
x	3	5	9	17
f(x)	6	3	-3	15
		-3	-6	-12

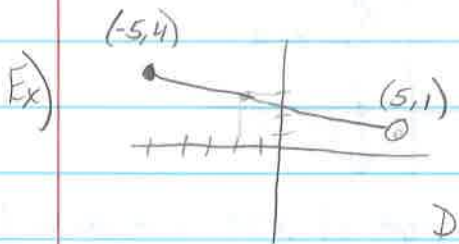
D: {3, 5, 9, 17}

R: {6, 3, -3, 15}

It is a function because all x's have one y value

Rate of change $\frac{-3}{2}, \frac{-6}{4}, \frac{-12}{8}$
 $\downarrow \quad \downarrow \quad \downarrow$
 $\frac{-3}{2} \quad \frac{-3}{2} \quad \frac{-3}{2}$

Yes, it's a linear function because there is a constant rate of change.



Ex) Yes, it is a function, because of the vertical line test

Yes, it is a linear function, because it is a straight line.

D: $\{-5 \leq x < 5\}$

R: $\{1 < y \leq 4\}$

Using this graph, find $f(-2) = 3$ or $(-2, 3)$

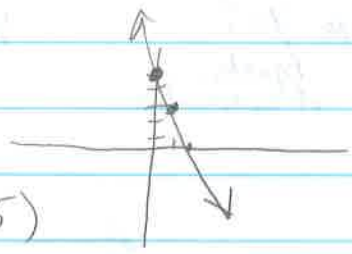
find x when $f(x) = 2$ $(2, 2)$

Slope-Intercept Form

$f(x) = mx + b$

$f(x) = -2x + 5$

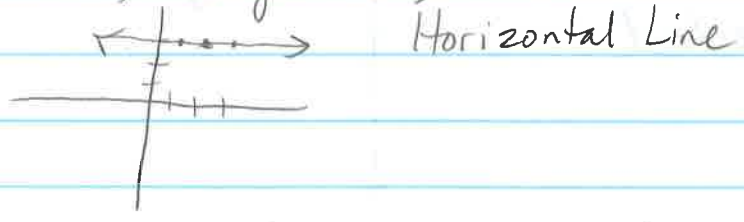
slope \uparrow y-int $(0, 5)$



$\frac{\text{rise}}{\text{run}} = \frac{-2}{1} = \frac{\text{down } 2}{\text{right } 1}$

What if slope was 0? $\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{0}{5}$

Ex) Slope of zero, through $(2, 3)$

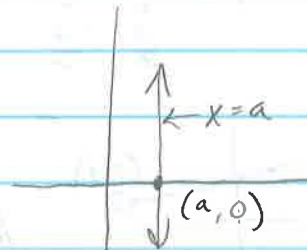
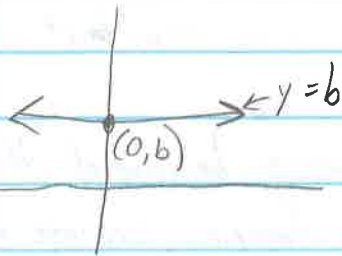


What if slope $\frac{1}{0}$ = undefined

Ex) Undefined slope, through (2,3)



Horizontal and Vertical Lines



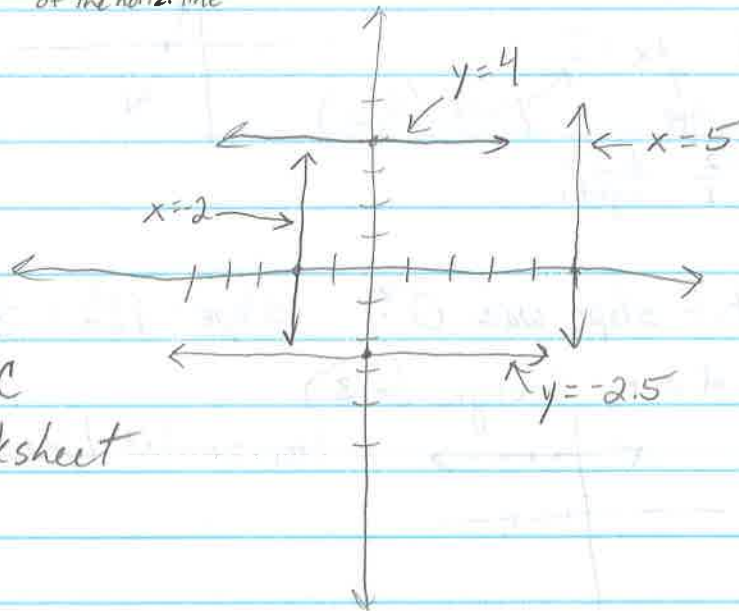
The graph of $y=b$ is a horizontal line. The line passes through the point $(0,b)$

The graph of $x=a$ is a vertical line. The line passes through the point $(a,0)$

H O Y - V U X

Horizontal Line
0-slope $y=?$
Equation of the horiz. line

Vertical
Undefined Slope
 $x=?$
Equation of the vertical line



Go over PC
HW- Worksheet