Printout

May 29, 2019 9:11 AM

Name: _____

Linear Relations Notes 2

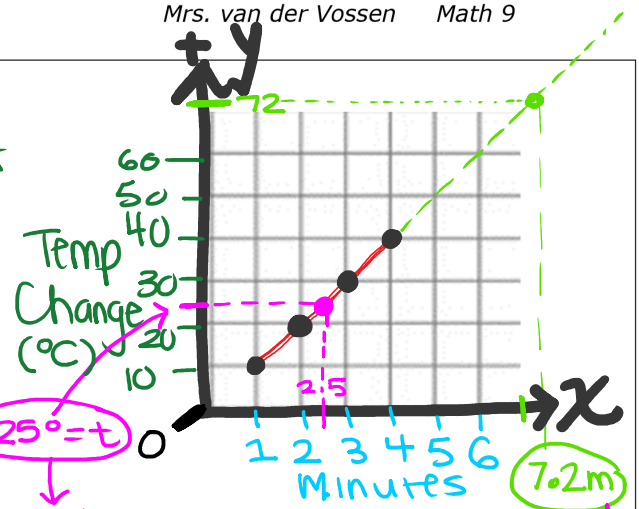
Date: _____ Block: _____

Mrs. van der Vossen *Math 9*

Independent → min

Dependent → Temp Change

	x	y
Start →	1	10
	2	20
	3	30
stop →	4	40



Look "IN" graph

INTERPOLATION - Estimating a value between data on a graph. ex: T? m=2.5

EXTRAPOLATION - Estimating a value past data on a graph. ex: m? t=72?

DRAW "EXTRA" to solve

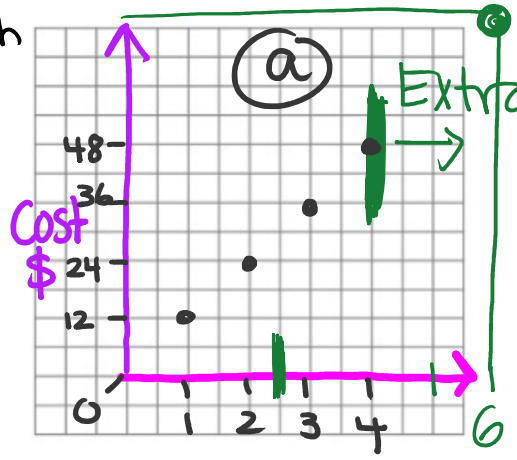
Tickets	Cost
1	12
2	24
3	36
4	48

+1 +12

a) graph

b) eqn

c) C=? T=6



d) Can you interpolate on this graph?

No cant buy part of a ticket.

c) C = ? T = 6

extrapolate 72 = C

TICKETS

b) $\frac{12}{1}T = C \rightarrow C = 12T$

Rewrite as dependent = indep.

9.3 Notes – Graphing using the SLOPE-INTERCEPT

Standard Form $y = mx \pm b$

b is the y intercept. (where the line goes through y-axis) $x=0$ ⊗ Start Point on graph

m is the SLOPE. This is the Pattern. $\frac{\text{RISE}(y)}{\text{Run}(x)}$ Make it a fraction

x	y
0	−2
1	1
2	4
3	7

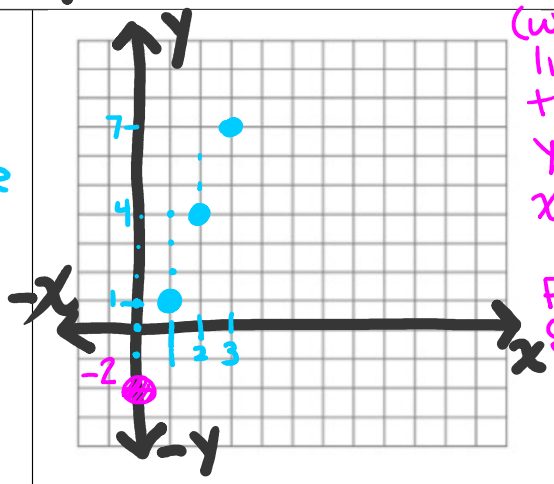
run +1

Rise +3

① $y = 3x \underbrace{-2}$

$m = \frac{3 \text{ rise up}}{1 \text{ run +}}$

$b = -2$
y int = −2



x	y
0	3
2	4
4	5
6	6

+2

+1

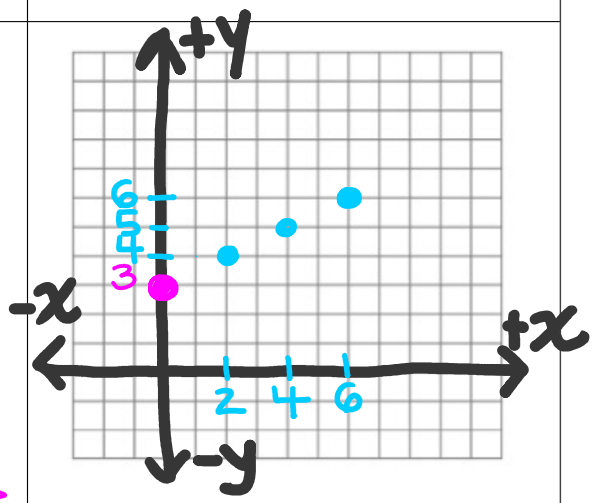
coefficient is slope!

$y = \frac{1}{2}x \underbrace{+3}$

start here
$b = 3$ so
$y=3, x=0$

pattern $\frac{\text{RISE}(y)}{\text{Run}(x)}$

$m = \frac{1 \text{ rise}}{2 \text{ run}}$



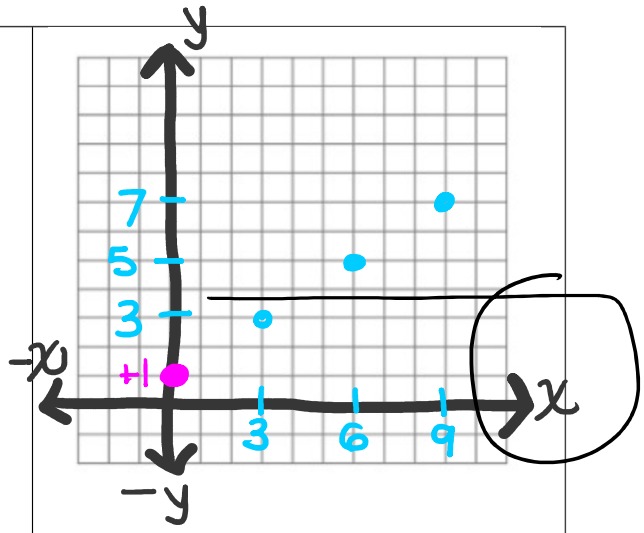
x	y
0	1
3	3
6	5
9	7

+3 +2

$$y = \frac{2}{3}x + 1$$

Rise / Run

$y = 1$
$x = 0$



x	y
0	5
1	4
2	3
3	2

+1 -1

NOT $\frac{-1}{-1}$

coefficient

-1

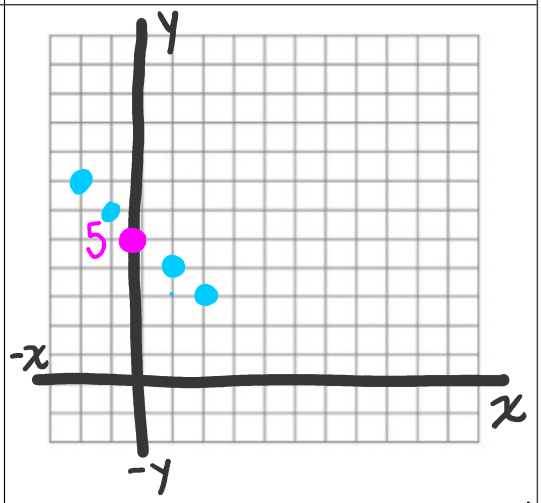
$\frac{-1 \text{ Rise}}{1 \text{ Run}}$

$$y = -x + 5$$

b

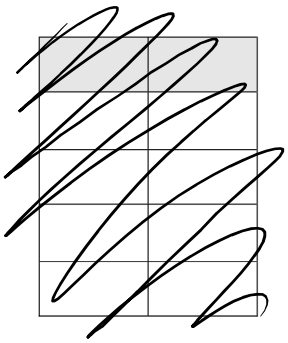
$y = 5$
$x = 0$

OR $\frac{1 \text{ Rise}}{-1 \text{ Run}}$ *



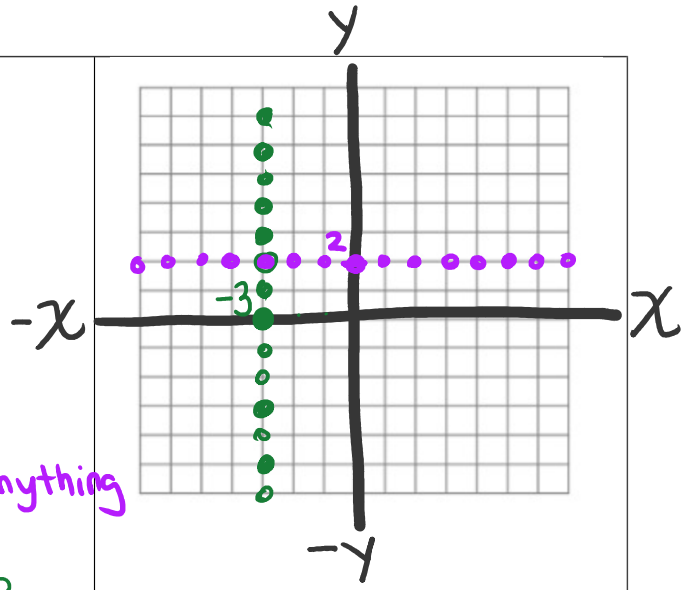
+1 Rise go 1 spot towards +y

x	y
1	2
2	2
3	2
4	2



Line equation $y = 2$
y is always 2, x is anything
HORIZONTAL LINE

Line equation $x = -3$
x is always -3, y is anything
VERTICAL LINE



x	y
-3	4
-3	5
-3	6

x	y
0	0
1	4
2	8
3	12

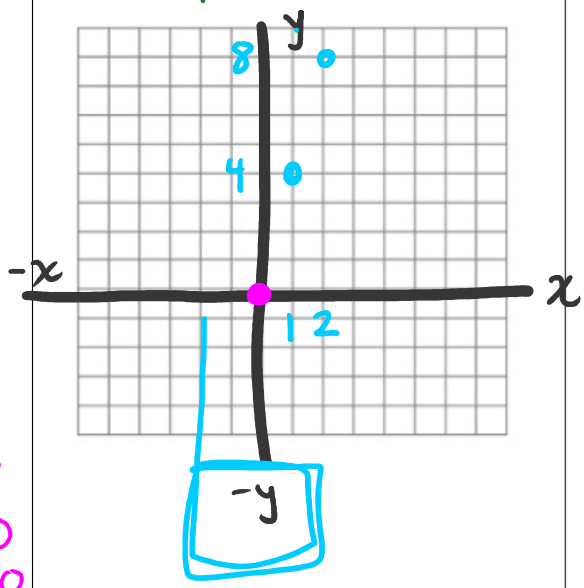
$y = 4x$

towards $-y$

towards $+x$

$m = \frac{4 \text{ rise}}{1 \text{ run}}$

if no "b"
y int is 0
$y=0$ $x=0$



look at Patterns → change to fractions ex Rise $\frac{0.25}{1} = \frac{1}{4}$

P240 # $\boxed{}$ 10 – 12

make a TOV and graph

a) $y = 3x + 2$
b) $y = -\frac{1}{2}x + 1$
c) $y = 4$
d) $y = -x + 2$