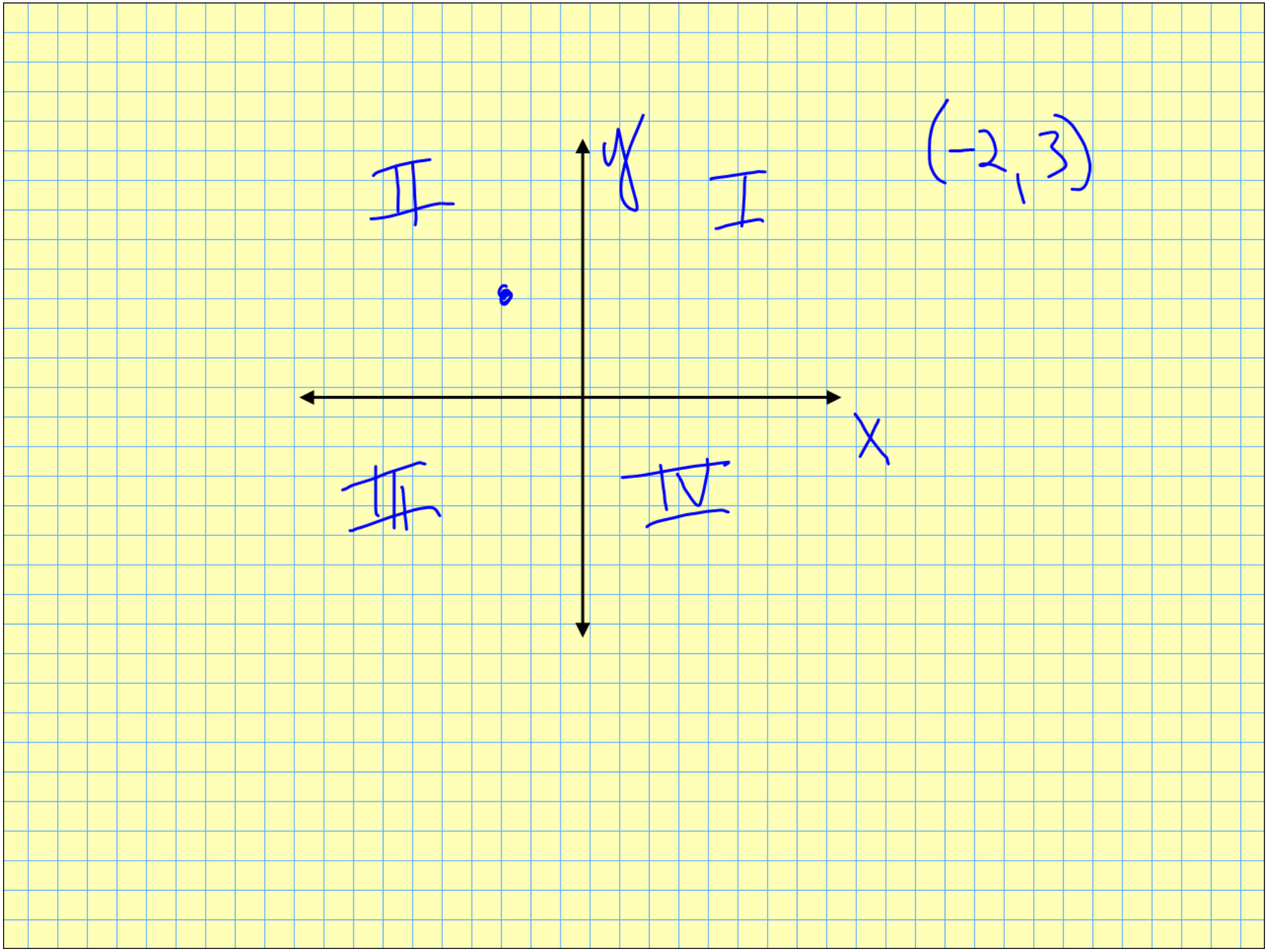
2.1


II
y
I
(-2, 3)
III
IV
x

Solve

① $2x + 3y = 6$

x	y
1	4/3
0	2

$2 + 3y = 6$

$3y = 4$

$y = 4/3$

Vs

Solve

② $3x + 2 = 5$

$3x = 3$

$x = 1$

Math

1) algebraically

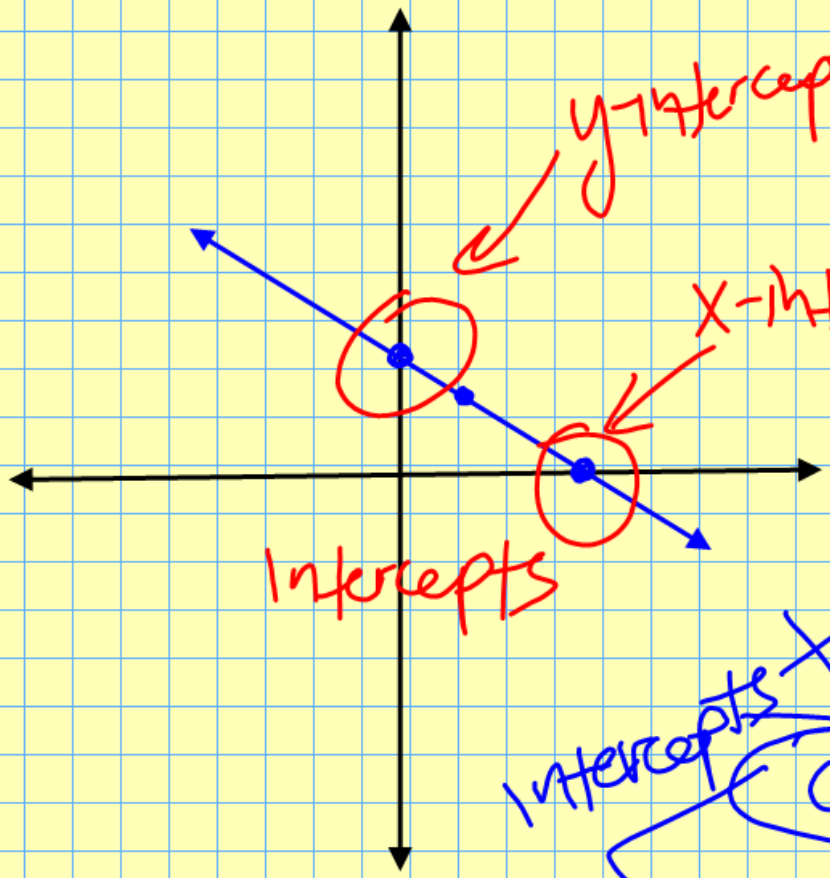
2) numerically

3) Visually = Graph

$2x + 3y = 6$

Graph lines

1. plot points
2. graph intercepts
3. → 3



	x	y
intercepts	0	2
		4/3
	3	0

$y = x^2 - 2x - 3$

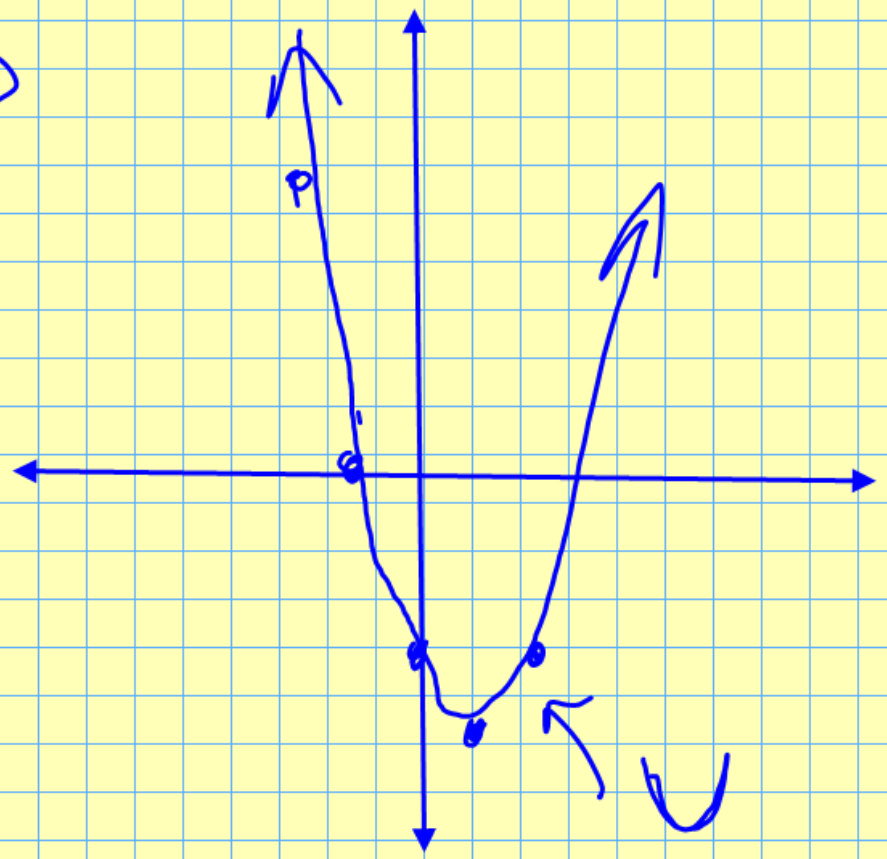
x	y
-2	5
-1	0
0	-3
1	-4
2	-3
3	0

$4+4-3$

$1+2-3$

$1-2-3$

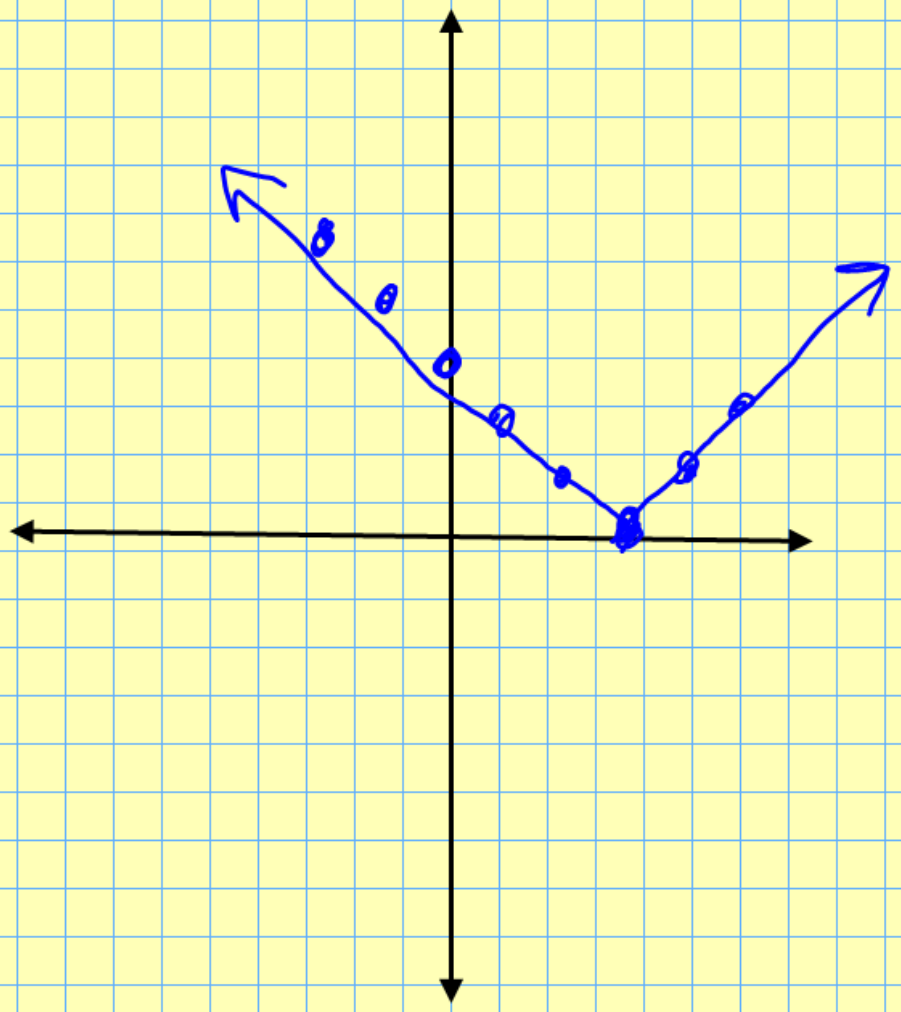
$4-4-3$



$y = +|x - 3|$

x	y
−2	5
−1	4
0	3
1	2
2	1

x	y
3	0
4	1



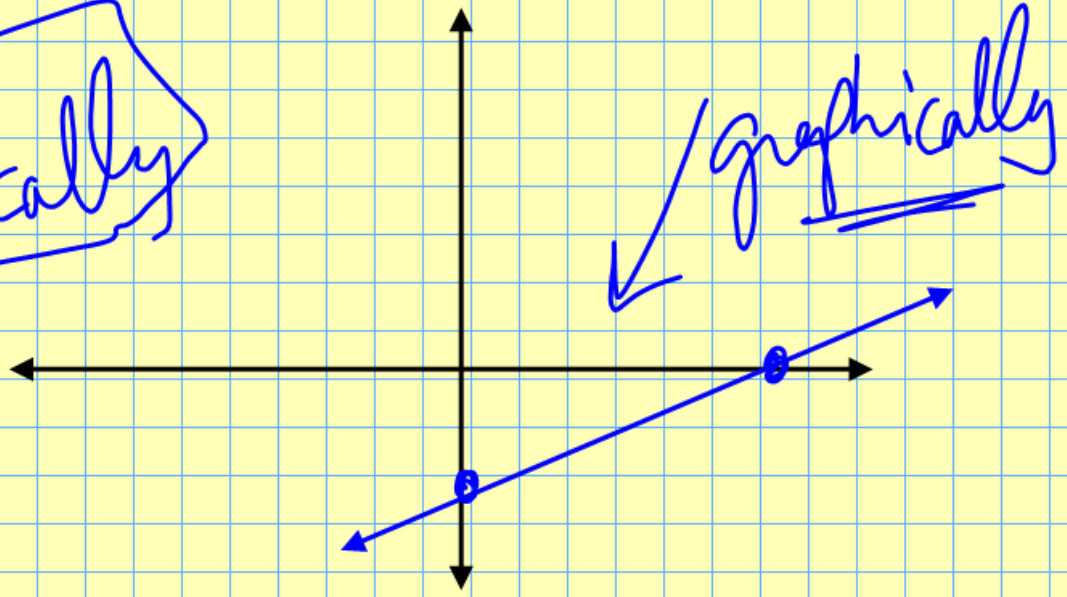
$2x - 5y = 10$ ← Algebraically

Graph by finding x- & y intercept

x	y
0	-2
5	0

numerically

graphically



4

X-int

(3, 0)

X-y intercept

y-int

(0, 5)

2.2

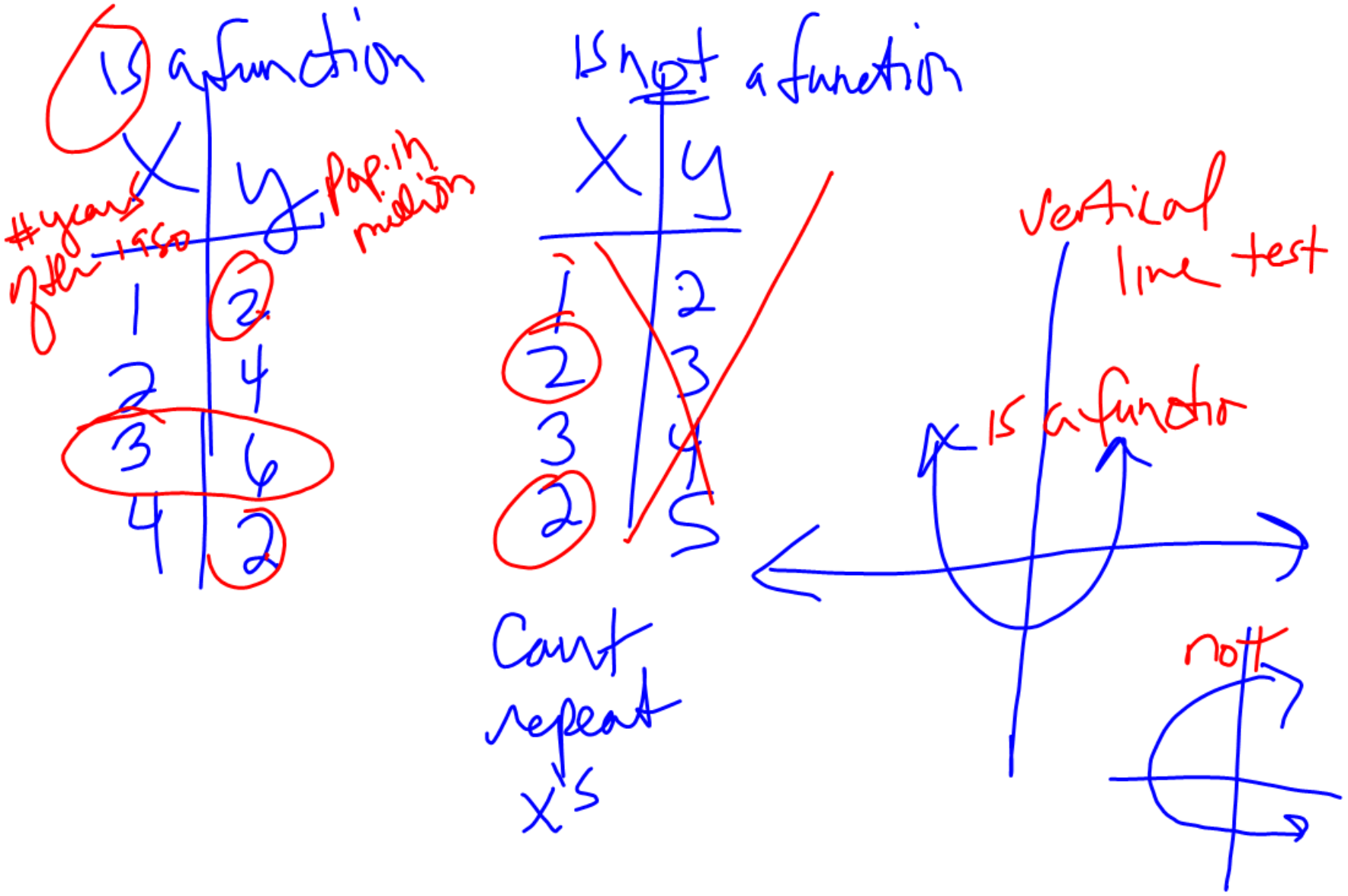
Relation

Function

- numerically
- graphically
- algebraically

Domain

Range


is a function
x
y
years after 1950
Pop. in millions
1
2
2
4
3
6
4
2
is not a function
x
y
1
2
2
3
3
4
2
5
Can't repeat x's
vertical line test
is a function
not

$x^2 + y = 4$ (is)

$y = 4 - x^2$

don't worry

is (not)

$x + y^2 = 4$

$\sqrt{y^2} = \sqrt{4 - x}$

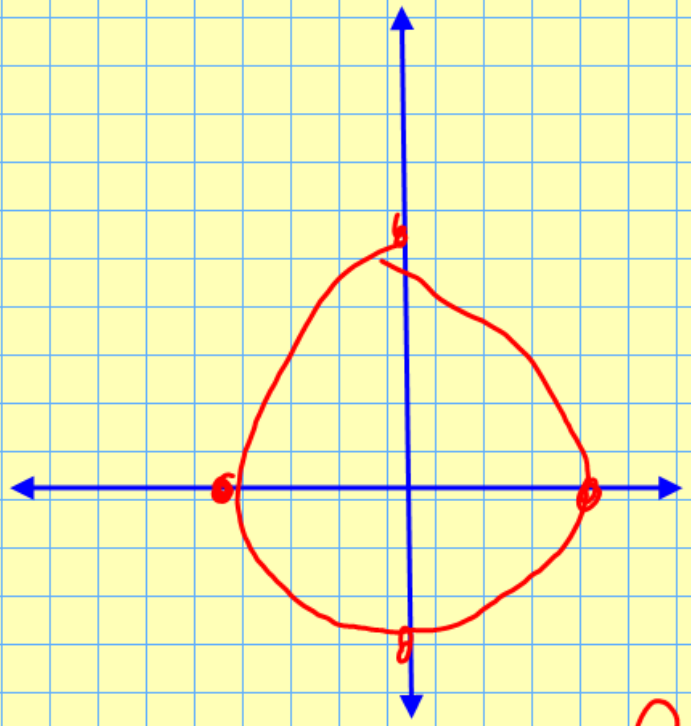
$y = \pm\sqrt{4 - x}$

Domain & range

x	y
1	4
2	8
3	7
5	4

{1, 2, 3, 5}

{4, 7, 8}



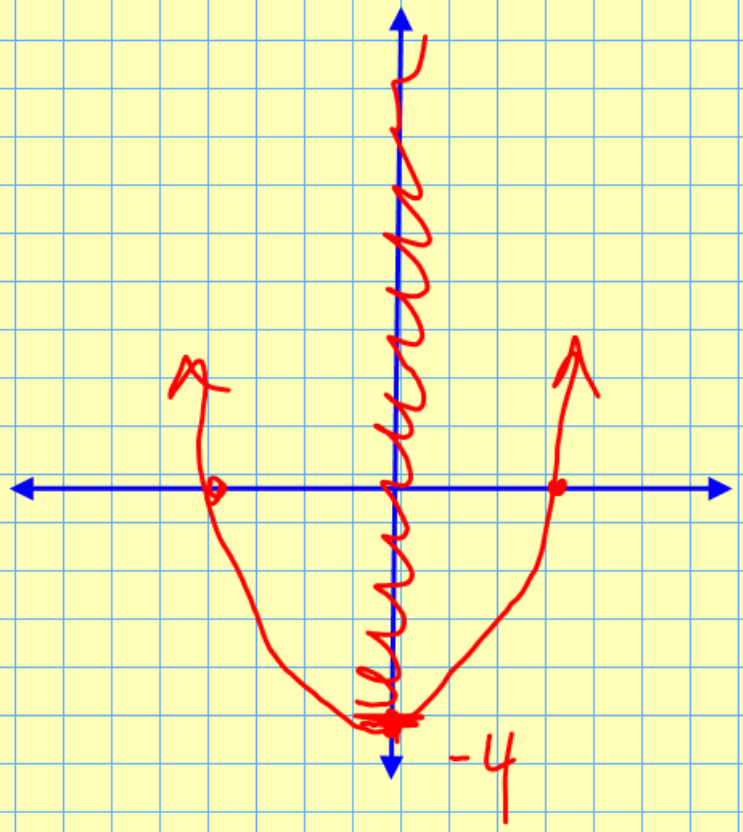
Domain

$\{x \mid -3 \leq x \leq 3\}$

$[-3, 3]$

Range $\{y \mid -3 \leq y \leq 4\}$

$[-3, 4]$



Domain $\{x \mid$ all Real #'s$\}$

$(-\infty, \infty)$

Range $\{y \mid y \geq -4\}$

$[-4, \infty)$

$y = |x-3|$

Domain $(-\infty, \infty)$

Range $[0, \infty)$