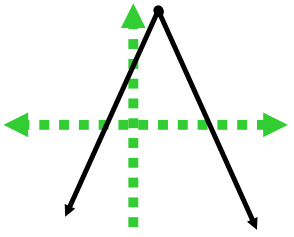
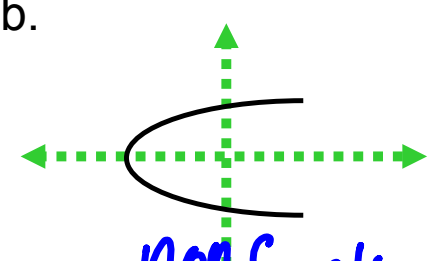
WARM UP: Function or not a function?

a.



Function

b.

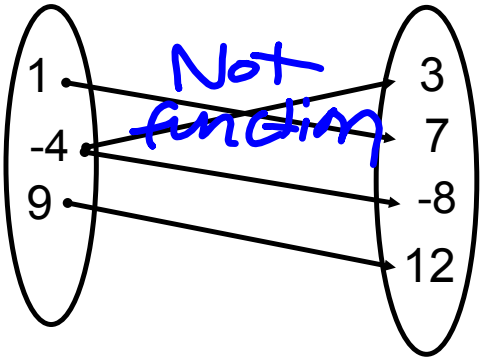


Non function

c. function

x	y
2	1
4	2
6	3
8	4

d.



Not function

e.

$\{(1,2),(-5,4),(3,4),(-2,2)\}$

function

6-2 Domain and Range

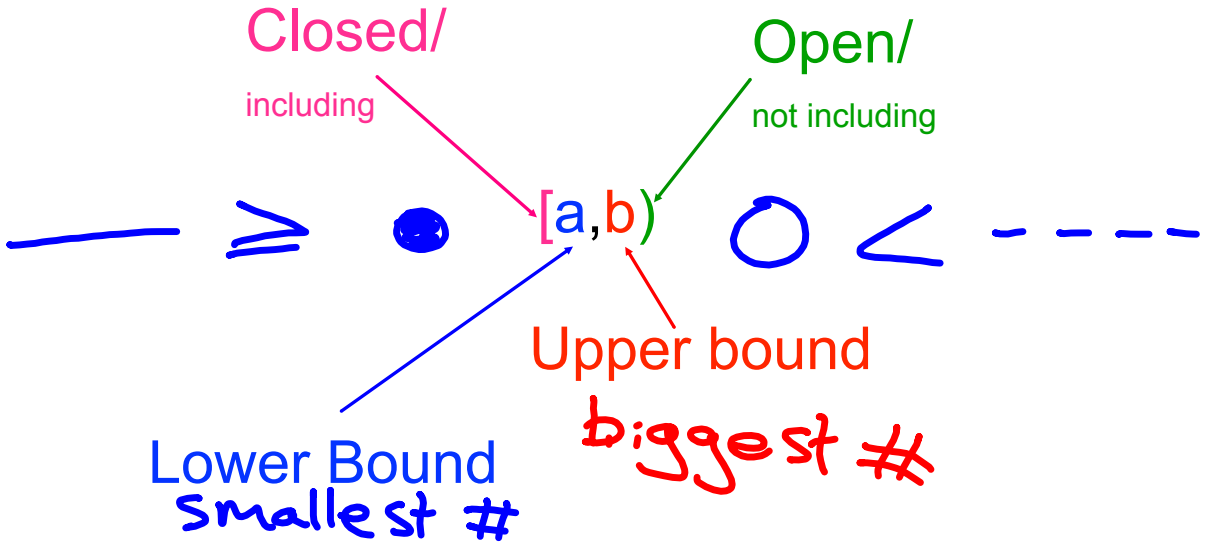
Function: when each domain value is paired with only one range value (no repeating x's)

- graphically: passes the vertical line test

I can identify the domain or x values of a function.

I can identify the range or y values of a function.

Interval Notation

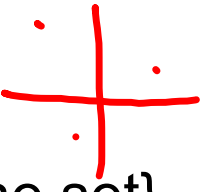


If the interval goes on forever we can use the infinity symbol (∞)

Set Notation

Set Notation is used to represent a group of values (elements)

2 ways to use set notation:



1. {list each element in the set}

examples: $(3,7),(4,2)(-5,15)$

Who are the students sitting in your row?

D: $\{3,4,-5\}$

R: $\{7,2,15\}$

What are the shoe sizes of the students in your row?

2. $\{$variable being defined $|$ variable description$\}$

means "such that"

Example: $\{x \mid x \geq 5\}$

Use this when your set is too large to list!

Examples:

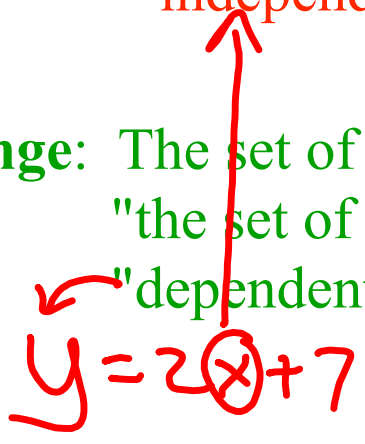
How much money can a person earn in a lifetime?

All numbers less than 7.

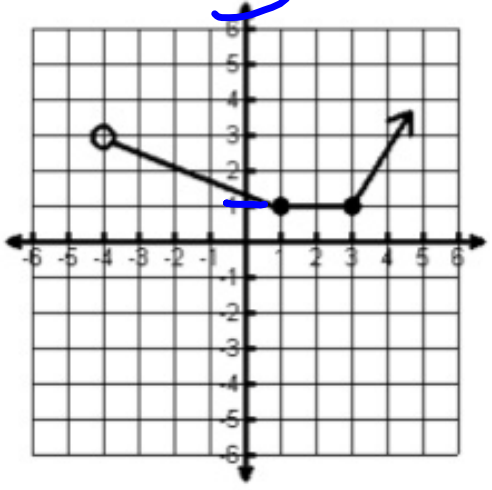
Domain & Range

Domain: The set of all inputs
"the set of all x-values" (when applicable)
"independent variable"

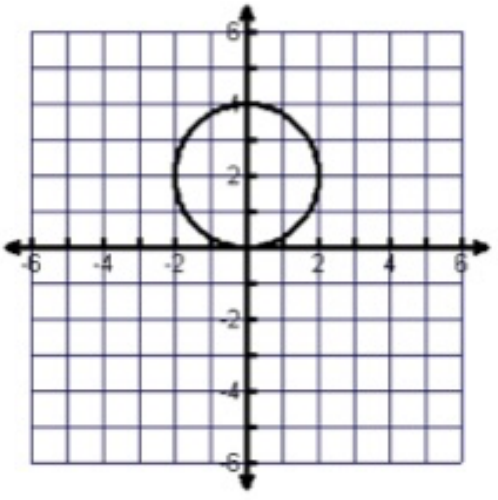
Range: The set of all outputs
"the set of all y-values" (when applicable)
"dependent variable"



3) Domain $(-4, \infty)$
Range $[1, \infty)$
Function? yes



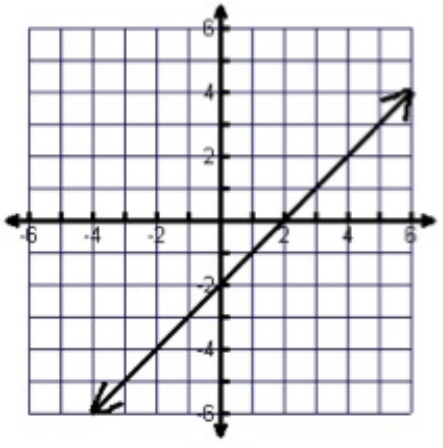
4) Domain $[-2, 2]$
Range $[0, 4]$
Function? NO



Domain $(-\infty, \infty)$

Range $(-\infty, \infty)$

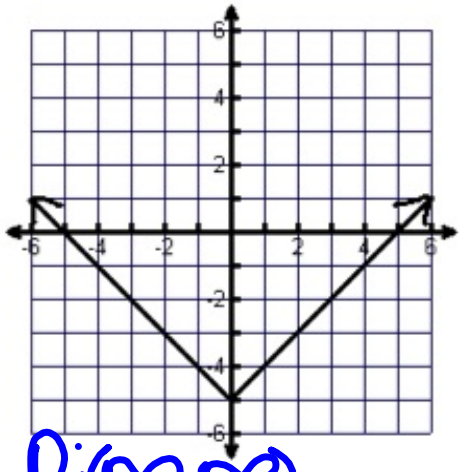
Function? yes



6) Domain _____

Range _____

Function? _____



D: (∞, ∞)

R: $(\infty, -5]$

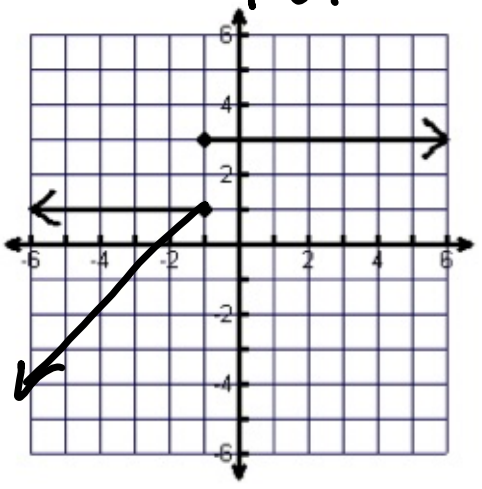
F: yes

$(-\infty, \infty)$

8) Domain $(-\infty, -1] \cup [-1, \infty)$

Range $\{\pm 1, 3\}$

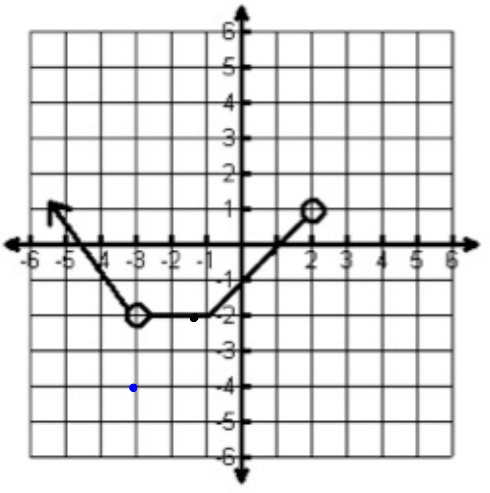
Function? NF



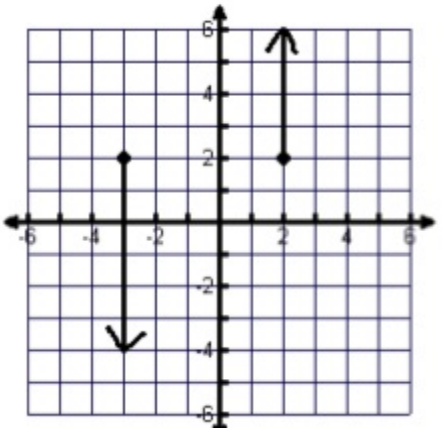
9) Domain $(-\infty, -3) \cup (-3, 2)$

Range $[-2, \infty)$

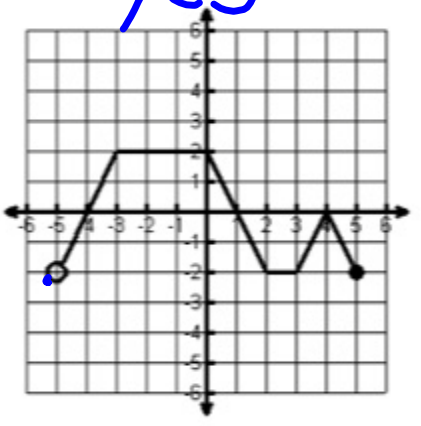
Function? Yes



Domain {-3, 2.}
Range (-∞, ∞)
Function? no



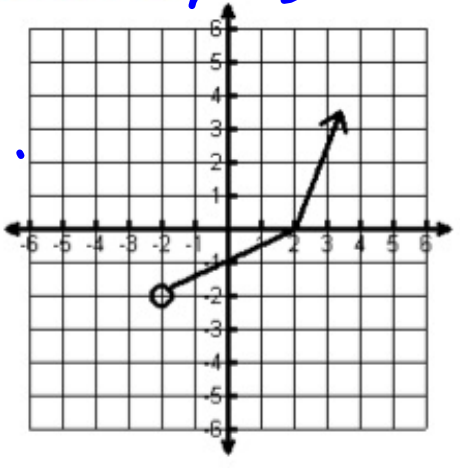
2) Domain (-5, 5]
Range [-2, 2]
Function? yes



) Domain $(-2, \infty)$

Range $(-2, \infty)$

Function? yes



12) Domain $(-5, 3)$

Range $[-3, 5]$

Function? No