

4-4 Notes: Domain and Range

Remember:

x	y
Domain	Range
Input	Output
x	$f(x)$

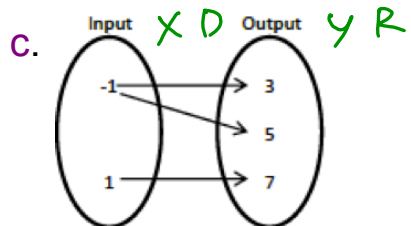
Identify the Domain and Range of the following:

a. $(\underline{2}, \underline{3}), (\underline{4}, \underline{5}), (\underline{6}, \underline{-2}), (\underline{5}, \underline{7})$ (x, y)

$D: \{2, 4, 6, 5\}$ $R: \{3, 5, -2, 7\}$

b. $f(\underline{1}) = \underline{3}$ $f(\underline{4}) = \underline{-1}$ $f(\underline{0}) = \underline{4}$ $f(\underline{8}) = \underline{2}$

$f(x) = y$ $D: \{1, 4, 0, 8\}$ $R: \{3, -1, 4, 2\}$



$D: \{-1, 1\}$ $R: \{3, 5, 7\}$

d.

x	y
-2	-1
0	6
5	0
8	3

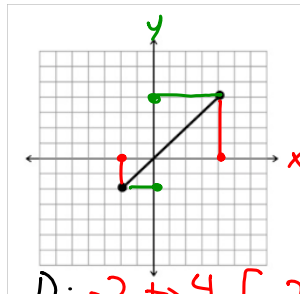
$D: \{-2, 0, 5, 8\}$
 $R: \{-1, 6, 0, 3\}$

Domain and Range from a graph:

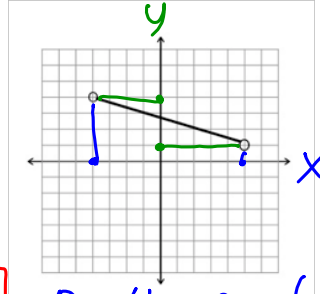
Domain: Read x-values from left to right
(smallest to largest)

Range: Read y-values from bottom to top
(smallest to largest)

What is the domain and range of the following graphs?



D: -2 to 4 $[-2, 4]$
R: -2 to 4 $[-2, 4]$



D: -4 to 5 $[-4, 5]$
R: 1 to 4 $[1, 4]$

What is the domain and range of the following graphs:

Interval Notation:

Used to represent an interval (the space between two points.) Write the beginning and ending numbers of the interval.

Starts Stops

	Graph	Interval Notation
Included		$[]$
Not Included		$()$

$(,]$

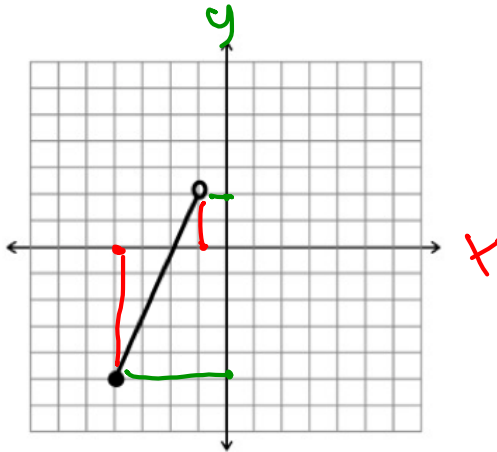
$[,)$

negative infinity $-\infty$ (goes forever in the negative direction)

infinity ∞ (goes forever in the positive direction)

Re-write the domain and range of the graphs above in interval notation

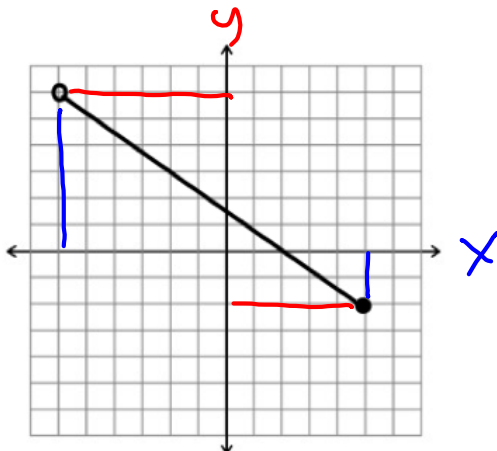
Write the domain and range of the graph in interval notation:



$$D: [-4, -1)$$

$$R: [-2, 2)$$

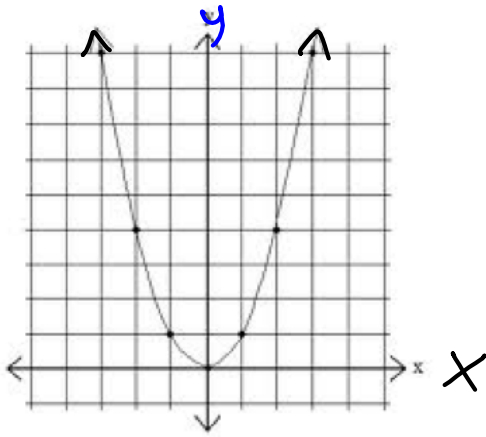
Write the domain and range of the graph in interval notation:



$$D: (-6, 5]$$

$$R: [-2, 6)$$

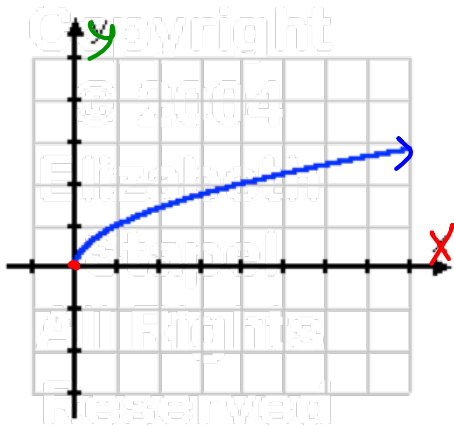
Write the domain and range of the graph in interval notation:



$$D: (-\infty, \infty)$$

$$R: [0, \infty)$$

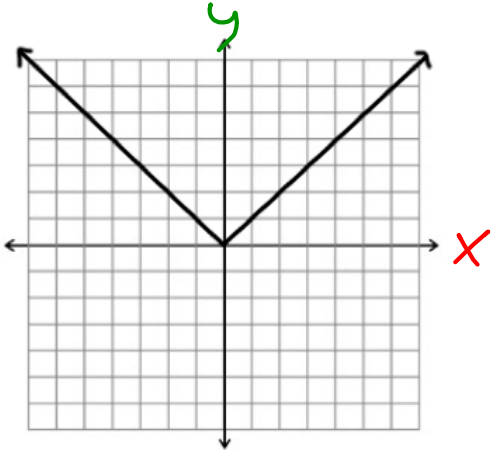
Write the domain and range of the graph in interval notation:



$$D: [0, \infty)$$

$$R: [0, \infty)$$

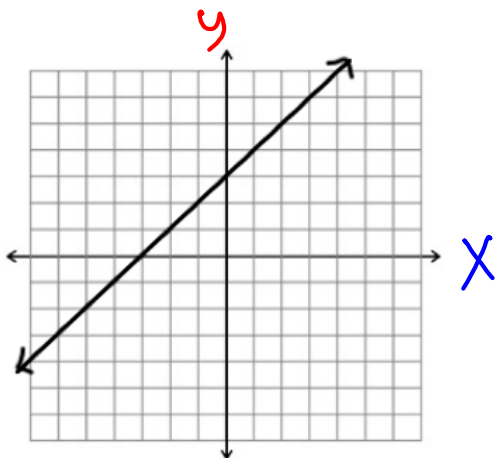
Write the domain and range of the graph in interval notation:



$$D: (-\infty, \infty)$$

$$R: [0, \infty)$$

Write the domain and range of the graph in interval notation:



$$D: (-\infty, \infty)$$

$$R: (-\infty, \infty)$$