

What is the value of the expression when $x = 4$ and $y = -2$?

$$\frac{x^2}{2} + xy^3$$

$$\frac{4^2}{2} + (4)(-2)^3$$

$$8 + 4(-8)$$

$$8 + -32$$

$$-24$$

Warm-up

Warm-up

Warm-up

Warm-up

Warm-up

Equations and their Graphs

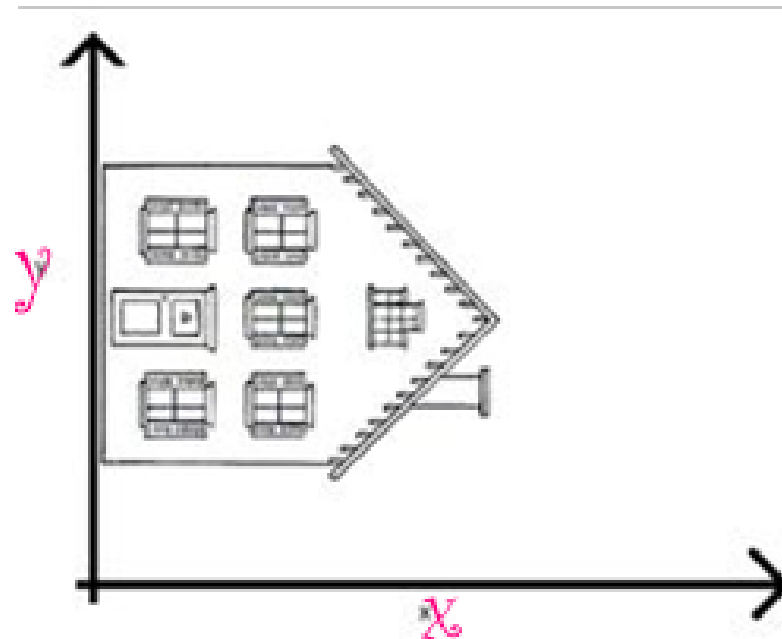
Getting more in depth about lines.

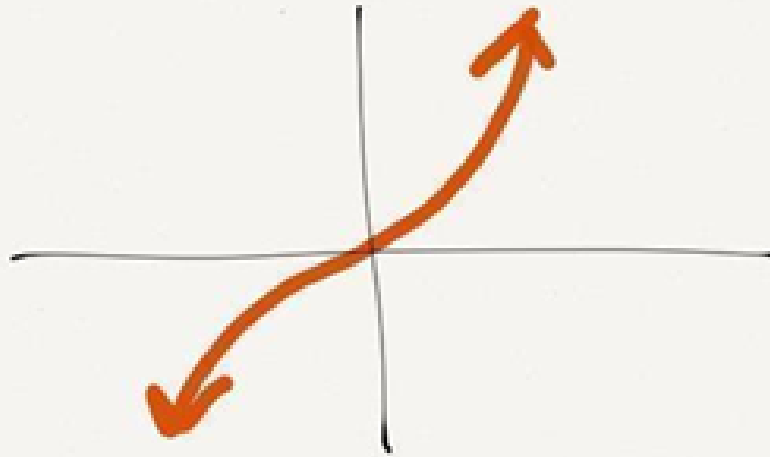
Domain and Range

Dominio y Rango

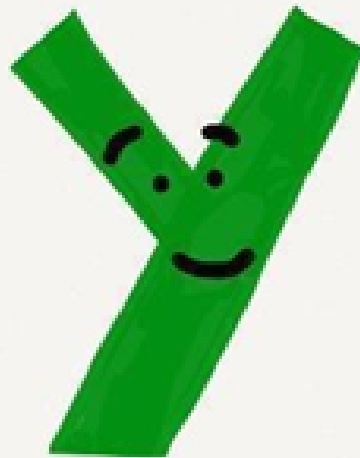
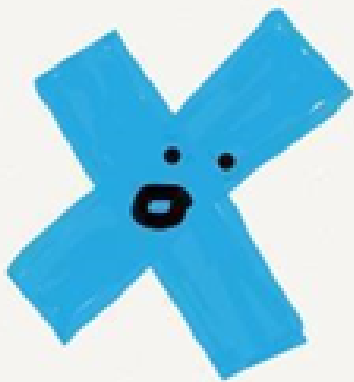
Domain (Dominio): the x -values

Range (Rango): the y -values





and in that moment, I swear we were infinite

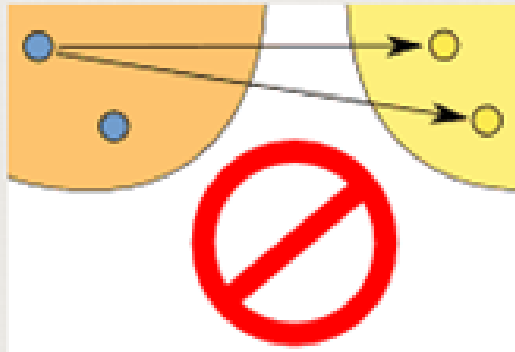


Function Notation - notación de función

For an equation in x and y , $f(x)$ replaces y and is read "f of x."

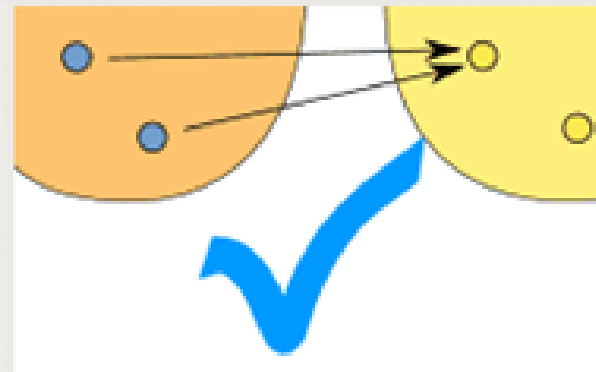
Function - función

A relationship between the input and the output such that for each input there is one and only one output.



(one-to-many)

This is **NOT** OK in a function



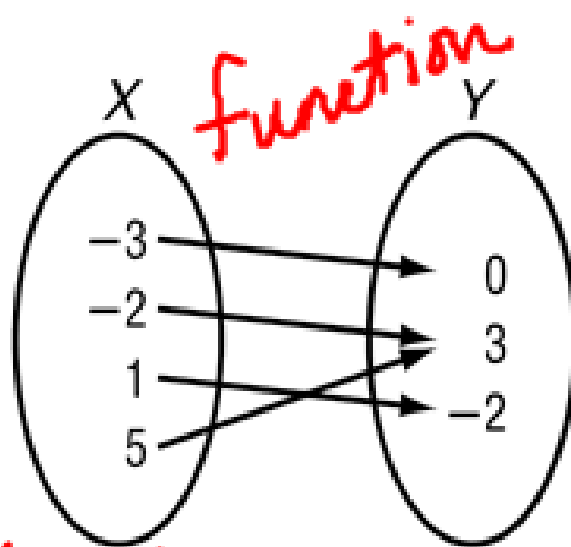
(many-to-one)

But this **is** OK in a function

To determine if a relation is a function, each input (x) can have exactly one output (y).

Are these functions??

función? Sí or No?



domain: $\{-3, -2, 1, 5\}$
 range: $\{-2, 0, 3\}$

What is the domain?

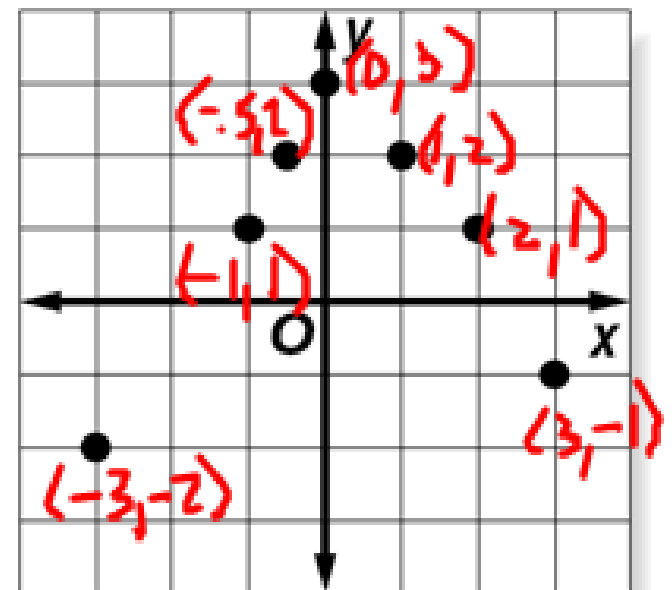
Range?

not a function

x	y
1	-5
-4	3
7	6
1	-2

d: $\{-4, 1, 7\}$
 r: $\{-5, -2, 3, 6\}$

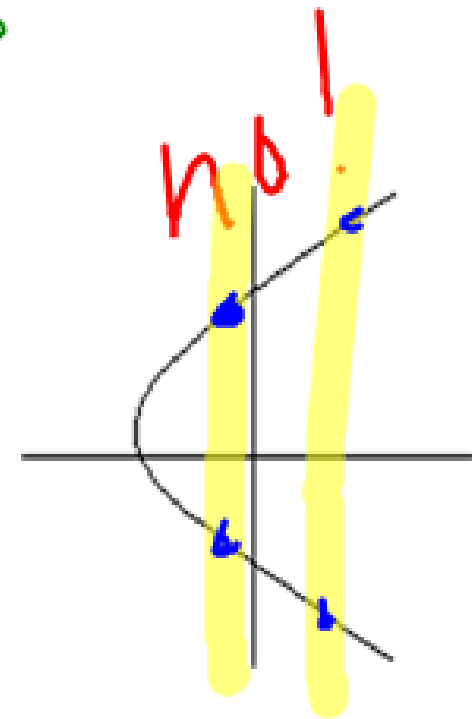
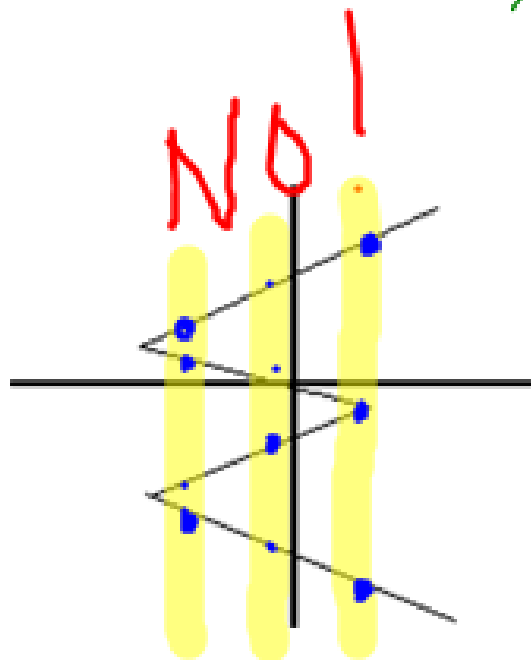
function



d: $\{-3, -1, 0, 1, 2, 3\}$
 r: $\{-2, 1, 2, 3, -1\}$

To determine if a graph is a function, draw a vertical line. If your line will always touch exactly one point on the graph, then it is a function.

Are these functions??



Are these functions???

