UNIVERSIDAD TECNOLÓGICA DE SAN LUIS RIO COLORADO

HW 1-2

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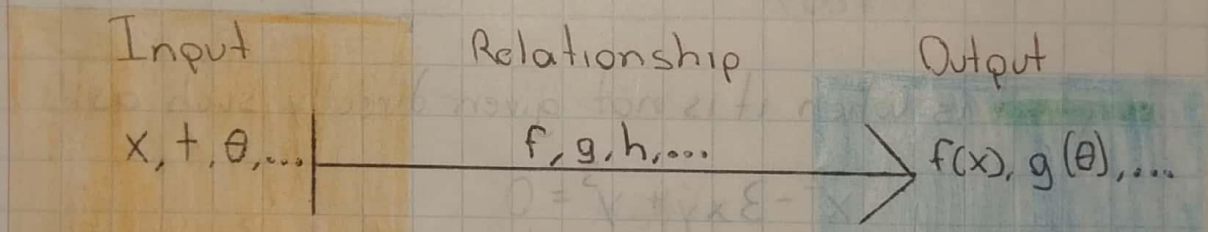
3.1 HW 1 PT1

So Many Names!

Functions have been used in mathematics for a very long time, and lots of different names and ways of writing functions have come about.

Here are some common terms you should get familiar with.



Domain
Domain Elements
Independent Variable
Argument

maps to

Range
Image
Range Elements
Dependent Variable
Value of function

3.1 HW 1 PT2

One last topic: the terms "explicit" and "implicit".

Explicit is when the function shows us how to go directly from x to y, such as:

$$y = x^3 - 3$$

When we know x, we can find y

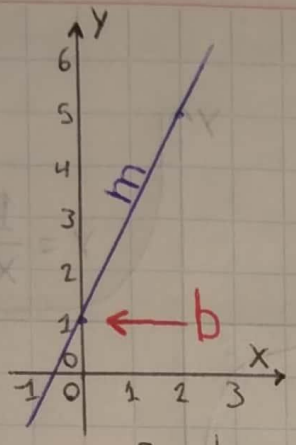
That is the classic $y = f(x)$ style that we often work with.

Implicit is when it is not given directly such as:

$$x^2 - 3xy + y^3 = 0$$

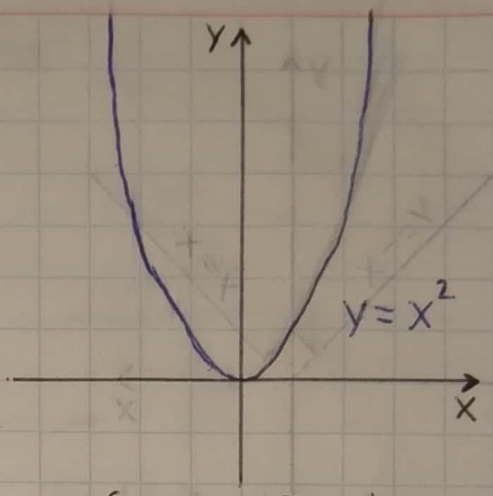
When we know x, how do we find y?

3.1 HW 2 Tipos de Funciones



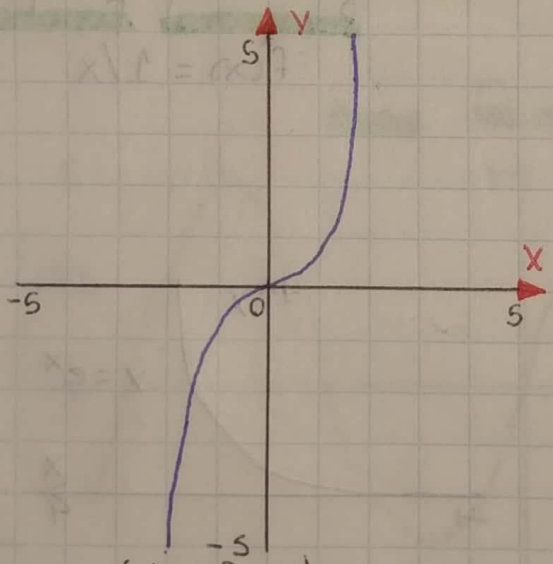
Linear function:

$f(x) = mx + b$



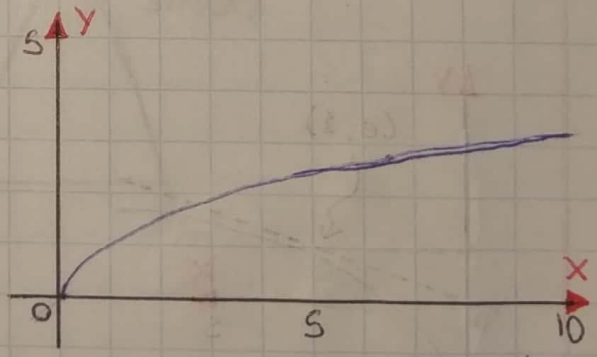
Squdre function:

$f(x) = x^2$



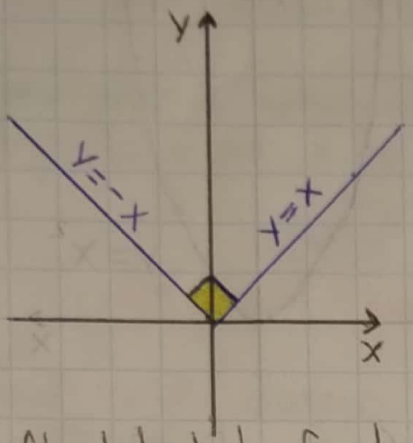
Cube function:

$f(x) = x^3$



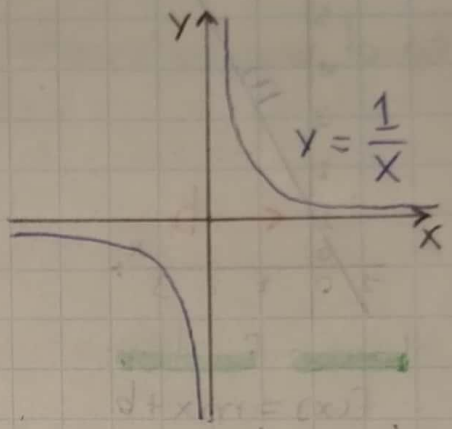
Squore Root function:

$f(x) = \sqrt{x}$



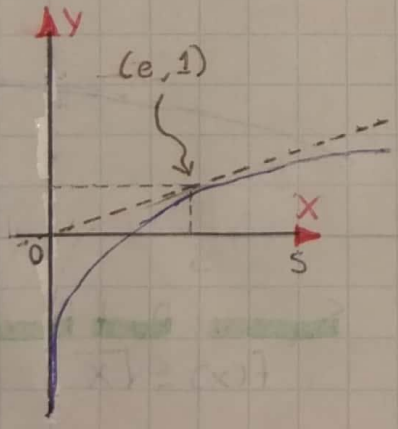
Absolute Value function:

$f(x) = |x|$



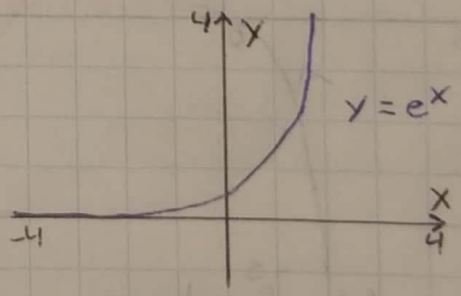
Reciprocal function

$f(x) = 1/x$



Logarithmic function:

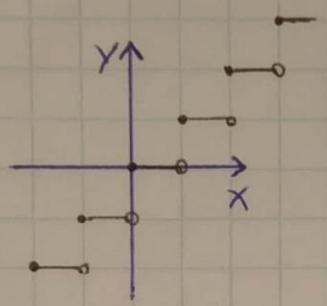
$f(x) = \ln(x)$



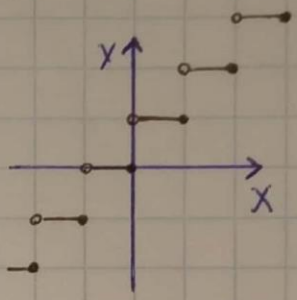
Exponential function:

$f(x) = e^x$

Floor and Ceiling functions:



The Floor function



The Ceiling function

Sine Function: