FAR BEYOND

MAT122

Function Basics

Stony Brook University

Relations/Functions

Function:= a relation such that an x-value in its domain has **exactly** one y-value

recall relations from previous video:

$\{(A,1),\ (B,12),\ (C,5)\}$ is a function

$\{(A,1)\ ,\ (B,8)\ ,\ (C,1)\ ,\ (A,5)\}$ is not a function:

A maps to 1

A also maps to 5

note: okay to have repeated y-values

Do: Determine whether each relation is a function:

$\{(1,2),\ (3,4),(5,6),(5,8)\}$

$\{(1,2),\ (3,4),(6,5),(8,5)\}$

Function Notation

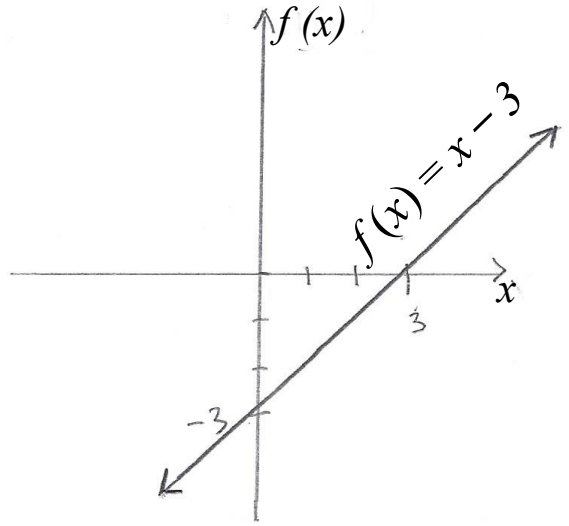
once a relation is determined to be a function, use the notation:

$$y \Rightarrow f(x) \qquad \text{say } "f \text{ of } x"$$

$y = mx + b$:)

example: ~~y~~ $= x - 3$ graphs as a ~~line~~ linear function

$$f(x) = x - 3$$



then just plug in an x-value to get the other coordinate for an ordered pair

process is called "**evaluating a function**"