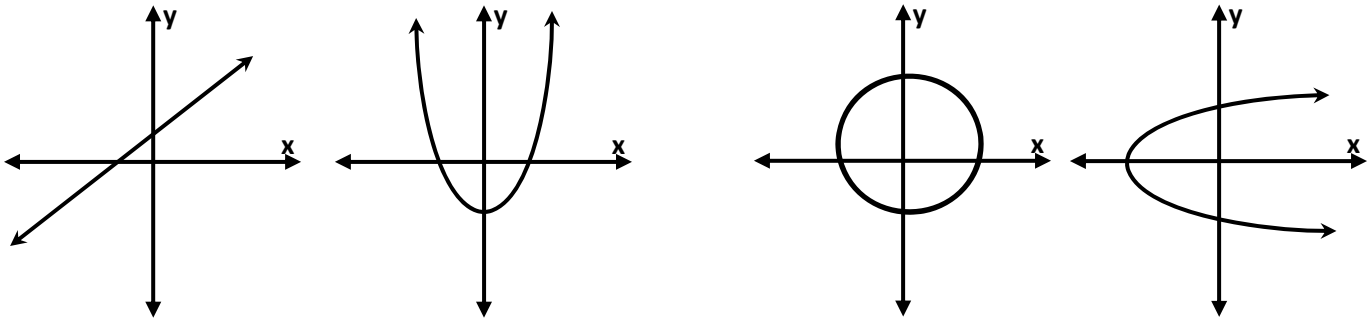
Pg. 40 1.4 – Functions

A _____is an equation that passes the vertical line test. An equation is a function if for every x-value there is a unique corresponding y-value.

Functions **Non-Functions**



Ex 1:
Which sets of ordered pairs represent functions from A to B?

$A = \{0,1,2,3\}$ and $B = \{-2,-1,0,1,2\}$

a) $\{(0,1),(1,-2),(2,0),(3,2)\}$

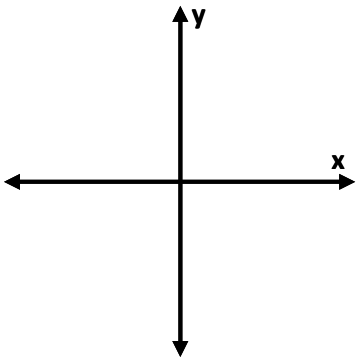
b) $\{(0,-1),(2,2),(1,-2),(3,0),(1,1)\}$

c) $\{(0,0),(1,0),(2,0),(3,0)\}$

d) $\{(0,2),(3,0),(1,1)\}$

Ex 2:
Determine whether the equation represent y as a function of x.

a) $x = y^2$ **b)** $x + y^2 = 4$ **c)** $(x-2)^2 + y^2 = 4$ **d)** $y = \sqrt{x+5}$



Ex 3:
Evaluate the function at each specified value of the independent variable and simplify.

$$f(x) = \sqrt{x+8} + 2$$

a) $f(-8)$ **b)** $f(1)$ **c)** $f(x-8)$

Ex 4:
Find the domain of the function.

$$f(x) = \sqrt[4]{x^2 + 3x}$$

Ex 5:
Find the difference quotient and simplify your answer.

$$f(x) = 5x - x^2, \qquad \frac{f(5+h) - f(5)}{h}, h \neq 0$$

Assignment 1.4

Pg. 48 Vocab #'s 1, 4, 6

Problem Set #'s 1-29 ODD, 37, 41, 45-73 ODD, 79-89 ODD, 93

Check Answers Pg. A82