




$5x-2y \leq 75$



$\begin{bmatrix} a & b \\ c & d \end{bmatrix}$



$S = Pe^{rt}$



$APY = (1 + \frac{r}{n})^n - 1$

Math 1090 ~ Business Algebra

Section 1.5 Functions

Objectives:

- Identify relations that are functions.
- Use the vertical line test to distinguish a function.
- Determine the domain and range of a function.
- Evaluate a function or relation at a given input value or expression.

relation vs function

domain

range

Ex 1: Which of these relations are functions?

- a) x = person y = car owned by that person
- b) x = person y = their kid
- c) x = person y = their mom
- d) x = student y = grade in math 1090 class

Vertical line test

If we graph all the ordered pairs of a relation on a Cartesian coordinate system, and every vertical line goes through the graph at most one time, then it is a function.

Ex 2: Are these functions? Identify the domain.

a) $y = f(x) = 6x^2$

b) $y^2 = 4x^2$

Ex 3: Given $f(x) = 4x^2 - 5x$ find

a) $f(-2)$

c) the domain

b) $f(2)$

d) the range.

Ex 4: For $f(x) = \frac{x+3}{x-2}$ find

a) $f(1)$

c) the domain

b) $f\left(\frac{2w+1}{w-1}\right)$

Ex 5: Find the domain.

a) $f(x) = \sqrt{2x-1}$

b) $g(x) = \frac{3}{x^2-25}$