Range

Math 1030 #13a

Domain

Functions: Building Blocks of Mathematical Modeling

Dependent Variable

Independent Variable

Functions

<u>Mathematical models</u> are based on relationships between quantities that can change.

<u>Function</u> - A mathematical tool that describes relationships between quantities.

    Variables - The quantities related by a function

        dependent variable - output variable

        independent variable - input variable

A function describes how a dependent variable changes with respect to one or more independent variables.

Notation

$y = f(x)$ read "y is f of x"

    f   is the name of the function

    x   is the independent variable

    y   is the dependent variable

EX 1: Write a statement that describes a possible relationship between the variables.

a) (age, shoe size)

b) (number of hours worked, size of paycheck)

c) (APR, loan balance after 10 years)

d) (Qing's age, his twin sister's age)

EX 2: Your health is a function of many variables. List a few.