

Chapter 2 Section 1

Introduction to Functions

Relation: any set of ordered pairs

Domain: first component of the ordered pair

Range: second component of the ordered pair

Find the domain and range of the relation

$\{(0, 9.1), (10, 6.7), (20, 10.7), (30, 13.2), (40, 21.2)\}$

Function: relation in which each member of the domain corresponds to exactly one member of the range.

- Relation in which no two ordered pairs have the same first component and different second components.

Example 2: page 107

Determine whether each relation is a function

a) $\{(1, 5), (2, 5), (3, 7), (4, 8)\}$

b) $\{5, 1), (5, 2), (7, 3), (8, 4)\}$

Functions as Equations and Function Notation

Notation: $f(x)$, read "f of x" or "f at x" represents the value of the function at the number x.

$f(x) = 2x + 3$, find $f(4)$

Example 3: page 109

b) Find $g(-2)$ if $g(x) = 2x^2 - 1$

d) $F(a + h)$ for $F(x) = 5x + 7$

Functions Represented by Tables and Function Notation

Example 4: page 110

The following table defines the function f:

x	f(x)
-2	5
-1	0
0	3
1	1
2	4

- Explain why the table defines a function
- Find the domain and range
- Find $f(-1)$
- Find $f(0)$
- Find x such that $f(x) = 4$