

Section 1.2 Functions

Objective: In this lesson you learned how to evaluate functions and find their domains.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

Function**Domain****Range****Independent variable****Dependent variable****I. Introduction to Functions** (Pages 16–18)

A rule of correspondence that matches items from one set with items from a different set is a _____.

In functions that can be represented by ordered pairs, the first coordinate in each ordered pair is the _____ and the second coordinate is the _____.

Some characteristics of a function from Set A to Set B are . . .

- 1)
- 2)
- 3)
- 4)

To decide whether a relation is a function, . . .

What you should learn

How to decide whether relations between two variables represent a function

If any input value of a relation is matched with two or more output values, . . .

Some common ways to represent functions are . . .

- 1)
- 2)
- 3)
- 4)

Example 1: Decide whether the table represents y as a function of x .

x	-3	-1	0	2	4
y	5	-12	5	3	14

II. Function Notation (Pages 18–20)

The symbol _____ is **function notation** for the value of f at x or f of x , used to describe y as a function of x . In this case, _____ is the name of the function and _____ is the output value of the function at the input value x .

In function notation, the _____ is the independent variable and the _____ is the dependent variable.

Example 2: If $f(w) = 4w^3 - 5w^2 - 7w + 13$, describe how to find $f(-2)$.

A piecewise-defined function is . . .

III. The Domain of a Function (Page 20–21)

If x is in the domain of f , then f is said to be _____ at x .

If x is not in the domain of f , then f is said to be _____ at x .

What you should learn
How to use function notation and evaluate functions

What you should learn
How to find the domains of functions

The **implied domain** of a function defined by an algebraic expression is . . .

For example, the implied domain of the function $f(x) = \sqrt{5x - 8}$ is . . .

IV. Applications of Functions (Page 22)

Example 3: The price P (in dollars) of a child's handmade sweater is given by the function $P(s) = 3s + 15$, where s represents the size (size 1, size 2, etc.) of the sweater. Use this function to find the price of a child's size 5 handmade sweater.

What you should learn
How to use functions to model and solve real-life problems

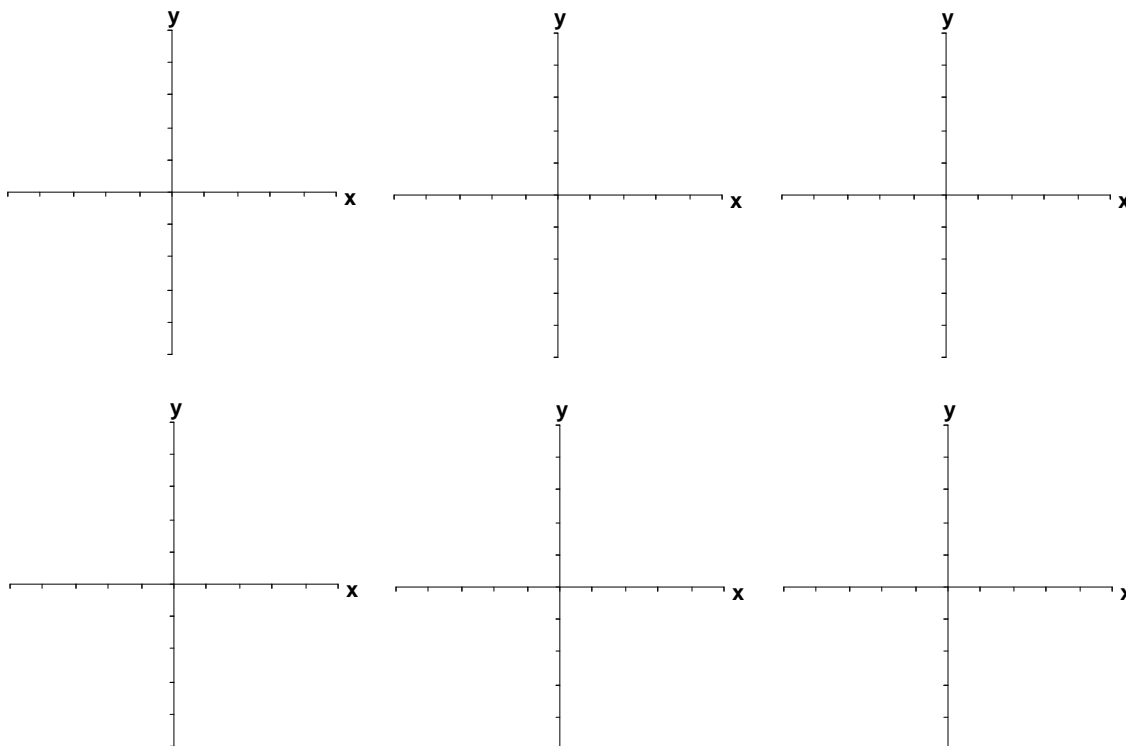
V. Difference Quotients (Page 23)

A **difference quotient** is defined as . . .

What you should learn
How to evaluate difference quotients

Describe a real-life situation which can be represented by a function.

Additional notes

Additional notes**Homework Assignment**

Page(s)

Exercises