

Section P.4 Rational Expressions

Objective: In this lesson you learned how to determine the domains of algebraic expressions and simplify rational expressions.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

Domain**Rational expression****Complex fractions****I. Domain of an Algebraic Expression** (Page 38)

Two algebraic expressions are _____ if they have the same domain and yield the same values for all numbers in their domain.

The domain of any polynomial function is . . .

The domain of a square root expression excludes . . .

The domain of a rational expression excludes . . .

A fraction is in simplest form if . . .

What you should learn
How to find domains of algebraic expressions

II. Simplifying Rational Expressions (Page 39)

To simplify a rational expression, . . .

To make sure that the simplified expression is equivalent to the original rational expression, you must . . .

What you should learn
How to simplify rational expressions

Example 1: Write the rational expression in simplest form.

$$\frac{x^2 + 3x - 28}{2x + 14}$$

III. Operations with Rational Expressions (Pages 40–41)

To divide two rational expressions . . .

When multiplying rational expressions, you must list by the product all the values of the variable that . . .

To add or subtract rational expressions, . . .

Example 2: Perform the operation and simplify: $\frac{4w}{w+1} + \frac{w+1}{w-1}$

What you should learn

How to add, subtract, multiply, and divide rational expressions

IV. Complex Fractions (Pages 42–44)

To simplify a complex fraction, . . .

What you should learn

How to simplify complex fractions

To simplify a rational expression involving negative exponents, . . .

Homework Assignment

Page(s)

Exercises