

### Section 4.5 Complex Fractions

- Know how to simplify complex fractions by multiplying by the Least Common Denominator.
- Know how to simplify complex fractions by adding and subtracting terms first, and then multiplying by the reciprocal.

### Section 4.6 Equations Involving Rational Expressions

- Know how to solve rational equations by finding a common denominator and then multiplying to clear the denominator.
- Make sure to check for “false” solutions.

### Section 4.7 Application Problems Involving Rational Functions

- Know how to set up and solve application problems. Make sure to define variables in a sentence, to find and solve an equation, and to state your conclusion in a sentence.
- Be familiar with rate problems and work problems.

### Sections 5.1 and 5.2 $n$ th Roots and Rational Exponents

- Know the definition of the  $n$ th root of a number, including the fact that the  $n$ th root of a negative number is *undefined* when  $n$  is even and is *defined* when  $n$  is odd.
- Memorize the common roots listed on page 427 of your textbook as well as the properties of exponents on page 429.
- Know how to write  $n$ th roots as rational exponents and how to write rational exponents using radical notation.
- Be able to simplify expressions involving rational exponents.
- Know how to multiply expressions involving rational exponents and how to factor expressions involving rational exponents.

### Section 5.3 and 5.4 Simplifying Radicals and Adding and Subtracting Radical Expressions

- Memorize the properties of radicals and simplification rules on page 446 of your textbook.
- Be able to apply use the properties of radicals and rationalization techniques to put radical expressions into simplified form.
- Pay attention to whether or not variables in a radical expression are assumed to be positive or are allowed to be negative and understand when to use absolute value signs when simplifying radicals.
- Understand how to add and subtract radical expressions and the fact that the radical portion of each term must be the same in order to combine terms.
- Be able to add and subtract radical expressions involving fractions by finding a common denominator and simplify the result by rationalizing and/or reducing.

### Section 5.5 Multiplication and Division of Radical Expressions

- Know how to multiply radical expressions involving either one term or multiple terms.
- Be able to rationalize fractional expressions with two term denominators by multiplying by the conjugate.

### Section 5.6 Equations with Radicals

- Know how to solve equations involving one or more radicals by isolating radicals and raising both sides to a power.
- Make sure to check for false solutions by evaluating potential solutions in the **original equation**.

**Practice Problems: Chapter 4 Review p. 419-421 # 26, 28, 31, 34, 37, 39**

**Practice Problems: Chapter 5 Review p. 488-489 # 2, 3, 5, 6, 7, 9, 10, 12, 13, 15, 20, 21, 23, 25, 26, 28, 31, 33, 35, 36, 37-40**