

Chapter 11 Test—Exploring Rational Expressions and Equations

Objective 11-1

Simplify the following expressions.

1. $\frac{3x^2}{12x^4}$

2. $\frac{2x^2 + 10x + 12}{3x + 6}$

3. $\frac{x - 1}{x^2 + 5x - 6}$

4. What are the excluded values for $\frac{x^2 + 4x + 3}{x^2 - 2x - 15}$?

Objective 11-2

Multiply or divide and simplify each of the following expressions.

5. $\frac{6x^2y}{5xy} \cdot \frac{15x^2y}{12xy^2}$

6. $\frac{9x^2y^3}{3xy} \div \frac{3x^2y^3}{2x^3y^2}$

7. $\frac{x + 2}{x} \cdot \frac{x^2 + 3x}{x + 3}$

8. $\frac{x^2 + x - 2}{x + 3} \div \frac{x^2 - 1}{x^2 + 5x + 6}$

Objective 11-3

Find each quotient.

9. $x + 3 \overline{)x^2 + 9x + 18}$

10. $2x + 1 \overline{)2x^2 - 5x - 3}$