

2.7

Name _____ Date _____ Period _____

Multiplying and Dividing Rational Expressions

Simplify each rational expression.

1. $\frac{x^2-4x-5}{x+1}$

2. $\frac{x^2-16}{x^3+64}$

3. $\frac{2}{3x+1} - \frac{5}{x-4}$

Perform the indicated operation.

4. $\frac{8x^2}{9y} \cdot \frac{3y^2}{2x^5}$

5. $\frac{-1x^2}{y^4z^3} \div \frac{6x^2y}{z^2}$

6. $\frac{6y^2}{5x^2} \div \frac{3y^2}{4x^6}$

7. $\frac{x+5}{x-6} \cdot \frac{2x-12}{x^2-25}$

8. $\frac{x+2}{x-6} \cdot \frac{3x^2}{x^2+4x+4}$

9. $\frac{x^2+5x-14}{3x^3-6x^2} \cdot \frac{2x^2+6x}{x^2+10x+21}$

10. $\frac{x^2-2x}{x^2-1} \cdot \frac{4x-4}{x^2-4}$

$$11. \frac{x^2-2x-24}{4x^2+13x-12} \cdot \frac{8x-6}{x^2-6x}$$

$$12. \frac{x+4}{x^2-36} \div \frac{4x^2+16x}{x^2-4x-12}$$

$$13. \frac{x^2-9}{2x-2} \div \frac{x^2-2x-3}{x-1}$$

$$14. \frac{x^2+3x+2}{3x-18} \div \frac{x^2-1}{x^2-x-30}$$

$$15. \frac{15x^2+5x-50}{32x^2-18} \div \frac{x^2-5x-14}{4x^2+9x-9} \cdot \frac{6x-42}{3x^2+4x-15}$$

Solve.

$$16. 7 - 5x = 3$$

$$17. x^2 - 2x - 8 = 0$$