

# 2.5

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## Simplifying Rational Expressions

Simplify each rational expression.

1.  $\frac{8x^3 - 4x^2 - 2x}{2x}$

2.  $\frac{x^2 - 8x - 20}{x - 10}$

3.  $\frac{x - 9}{x^2 - 18x + 81}$

4.  $\frac{3x^2 + 25x + 42}{3x + 7}$

5.  $\frac{2x + 7}{4x^2 - 49}$

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

7.  $\frac{x^2 + 16x + 63}{x^2 + 3x - 54}$

8.  $\frac{2x^2 - 13x - 7}{2x^2 + 21x + 10}$

9. 
$$\frac{25x^2 - 4}{5x^2 + 8x - 4}$$

10. 
$$\frac{3x^2 + 25x - 18}{x^2 + 10x + 9}$$

11. 
$$\frac{x^3 - 1}{x - 1}$$

12. 
$$\frac{x + 2}{x^3 + 8}$$

13. 
$$\frac{x^2 - 16}{x^3 + 64}$$

14. 
$$\frac{4x^2 - 2x + 1}{8x^3 + 1}$$

15. 
$$\frac{2r^3 - 4r^2 - 16r}{7r^3 - 14r^2 - 56r}$$

Simplify, without using a calculator.

16. 
$$\frac{15}{32} \cdot \frac{12}{25}$$

17. 
$$\frac{8}{9} + \frac{5}{6}$$

18. 
$$-\frac{1}{6} + \frac{11}{15}$$

19. 
$$\frac{10}{27} \div \frac{8}{15}$$