

# 5.1-5.3 Review

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

SCORE:

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## Simplifying Rational Expressions Review

Simplify each rational expression.

1. 
$$\frac{6x}{x-3} - \frac{6}{x-3}$$

2. 
$$\frac{(4x-1)(x+1)}{x+1}$$

3. 
$$\frac{3x^2 + 7x + 2}{3x + 1}$$

4. 
$$\frac{(x+3)(x+3)}{x+4} \div \frac{3(x+3)}{(x-4)(x+4)}$$

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

6. 
$$\frac{2x^3 - 32x}{2x^2 - 8x}$$

7. 
$$\frac{x-4}{x^2 - 7x + 12}$$

8. 
$$\frac{3x}{x+9} + \frac{27}{x+9}$$

9. 
$$\frac{x^2 + 10x + 9}{(x+7)(x+1)}$$

10. 
$$\frac{x^2 + 2x - 35}{7x^2 + 47x - 14} \cdot \frac{14x - 4}{x^2 - 5x}$$

$$11. \frac{x-2}{x^2-x-20} \div \frac{x^2+5x-6}{x^2-x}$$

$$12. \frac{8}{x-1} - \frac{3}{x-5}$$

$$13. \frac{x+2}{x^2+4x+3} + \frac{3}{x^2-1}$$

$$14. \frac{x}{-x-3} - \frac{x+5}{x^2+8x+15}$$

$$15. \frac{(x+5)(x-1)}{x^2+2x-15} \div \frac{x(x-1)}{-x+1}$$

$$16. \frac{16x}{4x+4} \cdot \frac{x^2+6x+5}{x^2+5x}$$

$$17. \frac{4x^2-25}{8x^3-125}$$

$$18. \frac{6x}{2x^2+2x} + \frac{4}{x+1}$$

$$19. \frac{20x-15}{x^2-3x-18} \div \frac{16x^2-25}{4x^2+17x+15}$$

$$20. \frac{3}{x+8} - \frac{x}{x^2-64}$$

$$21. \frac{8x^3 - 1}{12x^2 + 6x + 3}$$

$$22. \frac{x^2 - 2x - 8}{x^2 + x - 20} \cdot \frac{3x^2 - 3x}{x^2 + x - 2}$$

$$23. \frac{6}{x-3} \cdot \frac{x^2 - 9}{12x + 18}$$

$$24. \frac{3}{-x-2} + \frac{1}{x-4}$$

$$25. \frac{x^2 + 5x - 7}{x^2 + x - 12} - \frac{3x - 2}{x + 4}$$

$$26. \frac{3x}{x-5} - \frac{8}{4x+1}$$