

Name \_\_\_\_\_

## Rational Expression REVIEW Page 1 Simplify/Multiply/Divide

**Simplify** (*remember to factor when necessary*).

1.  $\frac{12x^6}{42x^4}$

2.  $\frac{x^2 + 8x + 15}{3x + 9}$

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

4.  $\frac{x^2 - 7x + 12}{x^2 + 2x - 15}$

**Multiply or divide** (*remember to factor when necessary*).

5.  $\frac{x+3}{5x+20} \cdot \frac{x^2+3x+2}{x^2+5x+6}$

6.  $\frac{6x+24}{5x-35} \cdot \frac{9x-63}{7x+28}$

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

8.  $\frac{x^2-x-12}{3x+9} \div \frac{x^2+x-20}{x+5}$

$$9. \frac{x^2 - 5x - 6}{2x + 6} \div \frac{x^2 - 3x - 4}{4x + 12}$$

$$10. \frac{3x - 21}{x^2 - 3x - 28} \cdot \frac{5x + 20}{2x + 8}$$

**Add or subtract these rational expressions.**

$$11. \frac{1}{y + 3} + \frac{4}{y^2 + 4y + 3}$$

$$12. \frac{2}{5x} - \frac{3}{10x}$$

$$13. \frac{2x + 3}{5x - 30} - \frac{3x + 4}{x - 6}$$

$$14. \frac{6}{y + 8} - \frac{3y}{y^2 + 11x + 24}$$