

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Rational Expressions Mixed Review

### Section I. Simplify the Expression

1.  $\frac{6m^2n}{15mn}$

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

3.  $\frac{3y}{9y-12y^2}$

4.  $\frac{x^2-x-12}{x^2-9x+20}$

### Section II. Multiply or Divide the Rational Expressions

5.  $\frac{10m}{18n} \cdot \frac{9n^2}{25}$

6.  $\frac{6w+3}{8w^2} \div \frac{4w^2-1}{2w}$

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

8.  $\frac{3g^2-8g+4}{9g^2-4} \div \frac{3g-5g-2}{9g^2-3g-2}$

### Section III. Add and Subtract the Rational Expressions

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

10.  $\frac{2}{m^2-64} - \frac{1}{m^2-8m}$

$$11. \frac{3y-9}{y^2+3y-10} + \frac{4y+12}{y^2+7y+10}$$

$$12. \frac{k+1}{k-4} - \frac{k+1}{k^2-7k+12}$$

**Section IV. Solve**

$$13. \frac{f+7}{f} + \frac{f+2}{f} = 4$$

$$14. \frac{h+1}{h-1} - \frac{2h}{h+1} = -1$$

$$15. \frac{x+4}{x-2} + \frac{6}{x-2} = \frac{1}{x+3}$$

$$16. \frac{2y}{y^2+y-6} + \frac{y+2}{y^2-9} = \frac{y}{y+3}$$