

NAME \_\_\_\_\_ DATE \_\_\_\_\_ PERIOD \_\_\_\_\_

## Rational Expressions/Equations/Inequalities Review

1. For what value(s) of  $x$  is the expression  $\frac{x^2 - x - 6}{2x^2 - x - 10}$  undefined?

Simplify each expression.

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

3.  $\frac{m^2 + 2m - 8}{3m^2 + 15m + 12} \cdot \frac{4m^2 - 4}{8m^2 - 16m}$

4.  $\frac{\frac{12y^2 - 48}{8y^2 + 16y}}{\frac{9y - 18}{4y^2 + 8y}}$

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

6.  $\frac{3}{2n - 1} - \frac{2}{1 - 2n}$

Find the LCM of each set of polynomials.

7.  $7r^2t, 6rt^4, 14r^3t^2$

8.  $n^2 + 6n + 5, n^2 + 3n - 10$

For Questions 18 and 19, solve each equation or inequality.

9.  $\frac{2x}{x - 3} - \frac{1}{3} = \frac{2}{2x - 6}$

10.  $\frac{8r - 3}{r} < \frac{45}{r}$