

**Math 3**  
**Unit 5 Quiz Review**

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

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

Simplify each rational expression. State any restrictions on the variables. Pay close attention to the sign between the rational expressions!

1.  $\frac{3x-6}{5x-20} \cdot \frac{x-8}{5x-10}$

2.  $\frac{y^2-25}{y^2-16} \div \frac{2y+10}{y^2-4y}$

3.  $\frac{14x+7}{4x-6} \cdot \frac{8x-12}{42x+21}$

4.  $\frac{8}{3x^3y} + \frac{4}{9xy^3}$

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

6.  $\frac{5x}{2y+4} - \frac{6}{y^2+2y}$

7.  $\frac{7}{5y+25} - \frac{4}{3y+15}$

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

9.  $\frac{2x+4}{3x-3} \cdot \frac{12x-12}{x+5}$

10.  $\frac{7}{2xy^2} + \frac{3}{8x^2y}$

**Divide Using Synthetic division.**

11.  $(x^4 - 2x^3 + x - 9) \div (x - 9)$

12.  $(2x^4 + 6x^3 - 5x^2 - 60) \div (x + 1)$