Name: _____

Algebra II | Chapter 5
Rational Exponents and Radical Functions
Review

1. Given $f(x) = 2x^2 + 4x - 3$ and $g(x) = 5x - 2$, find each function.

   Find all of the following pieces:

   a. $(f + g)(x)$

   b. $(f \cdot g)(x)$

   c. $[f \circ g](x)$

   d. $\left(\frac{f}{g}\right)(x)$

   e. $(f - g)(x)$

   f. $[g \circ f](x)$

2. Determine whether each pair of functions are inverse functions. Write yes or no. SHOW YOUR WORK!

   a. $f(x) = 2x + 16$

      $g(x) = \frac{1}{2}x - 8$

   b. $f(x) = x^2 - 5$

      $g(x) = 5 + x^{-2}$

3. Find the inverse of each function.

   a. $h(x) = \frac{2}{5}x + 8$

Graph each inequality.

4. $y < \sqrt{x-5}$

Graph each function. State the domain and range of each function.

5. $y = 2 + \sqrt{x}$

Simplify.

6. $\sqrt[3]{27(2x-5)^{15}}$

Simplify.

7. $\frac{6}{\sqrt{3}-\sqrt{2}}$

Write each expression in radical form, or write each radical in exponential form.

8. $\sqrt[3]{5xy^2}$