College Algebra **Answers to Review for Test #3**

1. $y = -4(x+2)(x-1)^2(x-3)$

2. a. (0 , 0) , (3/2 , 0) , (-3 , 0)

   b. Check your answer by graphing f on your calculator.

3. a. $\frac{1}{216}$ b. $\frac{3}{2e^5}$ c. $a^{\frac{3}{2}} = \sqrt{a^3} = a\sqrt{a}$

4. Check your graphs with your calculator.

5. The graph is symmetric with respect to y = x. The inverse has a vertical asymptote at x = -3 and a y-intercept of (0 , 2). Check it with the 'trick" mentioned in class!

6. $f^{-1}(x) = -\frac{x+1}{x-2} = \frac{1+x}{2-x}$

$$f^{-1}(f(x)) = f^{-1}\left(\frac{2x-1}{x+1}\right) = \frac{1+\frac{2x-1}{x+1}}{2-\frac{2x-1}{x+1}} = \frac{x+1+2x-1}{2x+2-2x+1} = \frac{3x}{3} = x$$

8. $x = 7/2$, $x = \frac{3+\sqrt{15}}{2}$, $x = \frac{3-\sqrt{15}}{2}$

9. $y = 75(0.811)^x$

10. a. \$3037.58 b. \$1428.83

11. \$10,328.50

12. a. $t \approx 11.12$ yrs. b. $t \approx 10.99$ yrs.

13. $r \approx 11.8\%$