ALGEBRA II REVIEW PROBLEMS
(7-4 thru 7-8)

1. Simplify the following:

a. $(32x^{20}y^{-10})^{-1/5}$ **b.** $(x^{1/3})(x^{1/6})$

2. Solve the following:

a. $\sqrt{x+20} - x = 0$ **b.** $\sqrt{4x-12} + 3 = x$ **c.** $\sqrt{x-2} - \sqrt{2x+3} = -2$

3. Let $f(x) = x^2$ and $g(x) = 3x + 1$; Find the following:

a. $f(x) - g(x)$ **b.** $(g \circ f)(1)$

4. For each function, find f^{-1} and state whether f^{-1} is a function:

a. $f(x) = 6x + 1$ **b.** $f(x) = 3x^2 + 1$

5. Graph the following:

a. The inverse of $y = (x - 1)^2$ **b.** $y = -\sqrt{x} - 1$ **c.** $y = \sqrt{x+4}$

ANSWERS

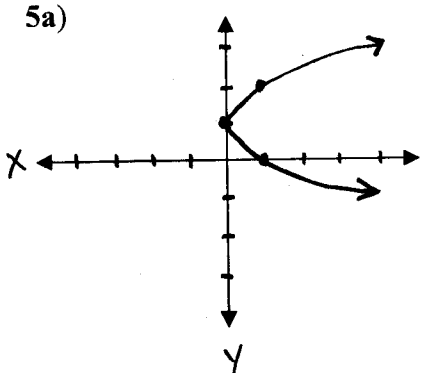
1a) $\frac{y^2}{2x^4}$ **b)** $\sqrt{x}$

2a) $x = 5, -4$ (-4 extraneous) **b)** $x = 3, 7$ **c)** $x = 3, 11$

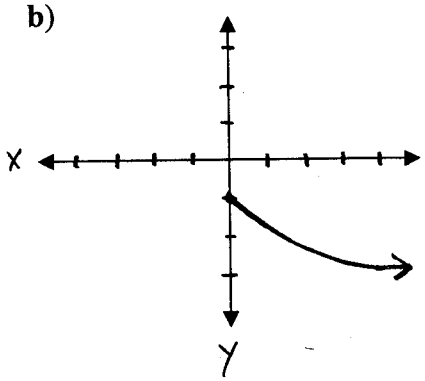
3a) $2x^2 - 3x - 1$ **b)** 4

4a) $y = \frac{x-1}{6}$, function **b)** $y = \pm \frac{\sqrt{3x-3}}{3}$, not a function

5a)



b)



c)