Name: _____ Math 211 Quiz 1

Section: 302 □ 303 □ Jan 25, 2012

1. Compute the indicated values of the given function.

$$h(t) = \sqrt{t^2 + 2t + 4}; \quad h(2), h(0), h(-4).$$

Solution. $h(2) = 2\sqrt{3}, h(0) = 2, h(-4) = 2\sqrt{3}$.

2. Determine the natural domain of the given functions.

$$\textbf{a}.\ g(x) = \frac{x^2 + 5}{x + 2}; \qquad \textbf{b}.\ h(s) = \sqrt{s^2 - 4}$$

Solution. **a.** domain: $x \neq -2$; **b.** domain: $x \leq -2$ or $x \geq 2$.

3. Find the composite functions $f(g(x))$ and $g(f(x))$.

$$\textbf{a}.\ f(x) = x^2 + 1, g(x) = 1 - x; \qquad \textbf{b}.\ f(x) = g(x) = \frac{1 - x}{1 + x}$$

Solution. **a.** $f(g(x)) = x^2 - 2x + 2, g(f(x)) = -x^2$; **b.** $g(f(x)) = f(g(x)) = x$.