SLU PreCalculus Quiz 2 Solution Fall 2007

NAME: _____Score_____/10

Please **print** your name

1. T **F** A point is on the x-axis if and only if its first coordinate is 0.

2. **T** F If a vertical line may be drawn so that it intersects a graph in more than one point, then that graph is not the graph of a function.

3. A zero of a function f is a **domain** element k for which **f(k) = 0**.

4. The **graph** of a function is the set of all points whose coordinates satisfy the rule of the function.

5. If p is a function and k is an element of the domain of p, then **p(k)** is the unique range element associated with k by the function p.

6. (3 pts) Consider the function whose rule is $g(x) = \frac{1}{x^2}$.

Evaluate and simplify g(x) – g(3).

$$g(x) - g(3) = \frac{1}{x^2} - \frac{1}{3^2} = \frac{9 - x^2}{9x^2} = \frac{(3 - x)(3 + x)}{9x^2}$$

7. (2 pts) Consider the function whose rule is given by $f(x) = 8\sqrt{x} - x$.

Show that 64 is a zero of f.

$$f(64) = 8\sqrt{64} - 64 = (8)(8) - 64 = 0$$