Name: 6/28/06

Math 111 Practice Quiz

1. (6pts) A function consists of three things. List them:

   (a) _____

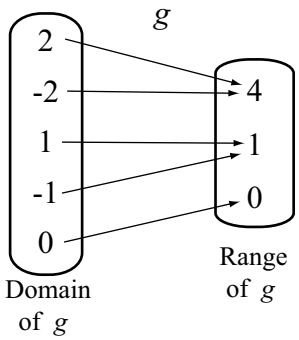
   (b) _____

   (c) _____

2. (4pts each) True or False

   (a) If f is a function with domain $\mathbb{R}$, then $f(a+b) = f(a) + f(b)$ where a and b are any real numbers.

   (b) The following diagram represents a function.



3. (10pts) Consider the following subset of the real numbers

$$(-\infty, -4] \cup (-3, -1] \cup [3, 6] \cup (8, 10).$$

   Circle the numbers from the following list which lie in the subset of the real numbers above.

$$-100, \quad -4, \quad -3, \quad -2, \quad 0, \quad \pi, \quad 10, \quad 13, \quad \frac{13}{2}, \quad \frac{-3}{2}$$

4. (10pts) Consider the function f with domain $\{-2, 1, 2\}$ and rule $f(x) = 2x^2 + 10$. Compute the following:

   (a) $f(-2)$

   (b) $f(0)$

   (c) $f(1)$

   (d) $f(2)$

   What is the range of f ?

5. (10pts) Suppose g is a function with domain $\mathbb{R}$ and rule $g(x) = 3x^2 - 7x + 2$. Compute the difference quotient

$$\frac{g(x+h) - g(x)}{h}$$

[Be sure to simplify your answer.]