Math 105, Precalculus
Quiz 3, Sections 2.2—2.3

Name ANSWER KEY A
October 1, 2009

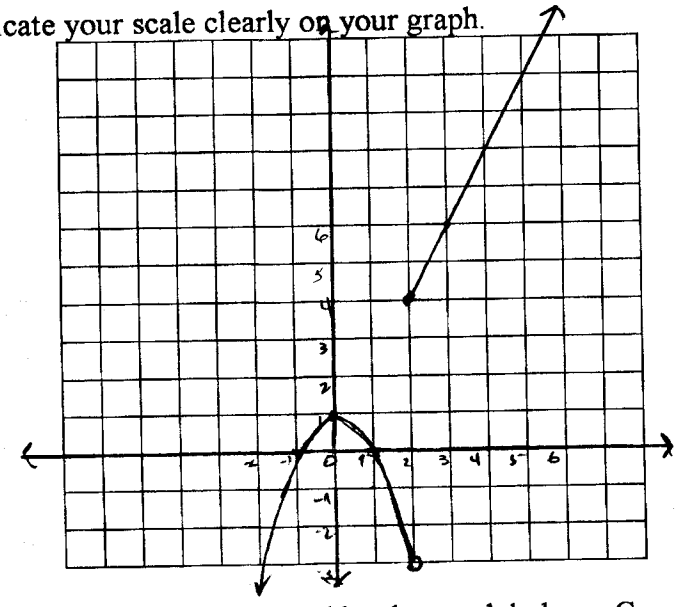
Show all work neatly. Use of calculators is not permitted.

7 pts. 1. Graph the piecewise defined function $f(x) = \begin{cases} 1-x^2, & \text{if } x < 2 \\ 2x, & \text{if } x \geq 2 \end{cases}$ below.

Be sure to indicate your scale clearly on your graph.

x	$1-x^2$
2	$1-2^2 = -3$
1	$1-1^2 = 0$
0	$1-0^2 = 1$
-1	$1-(-1)^2 = 0$
-2	$1-(-2)^2 = -3$

x	$2x$
2	4
3	6
4	8
5	10



5 pts (1 ea) 2. Let $y = g(x)$ be the function described by the graph below. Complete the following:

a) The domain of $g(x)$ is $[-2, 8]$ or $-2 \leq x \leq 8$

b) The range of $g(x)$ is $[2, 6]$ or $2 \leq y \leq 6$.

c) Find $g(1)$ $= 6$.

d) Find $g(3)$ $= 5$.

e) The average rate of change of $g(x)$ between $x = 1$ and $x = 3$ is $\frac{6-5}{1-3} = \boxed{\frac{1}{-2}}$.