

Math 105, Precalculus
Quiz 3, Sections 2.2—2.3

Name ANSWER KEY B
 October 1, 2009

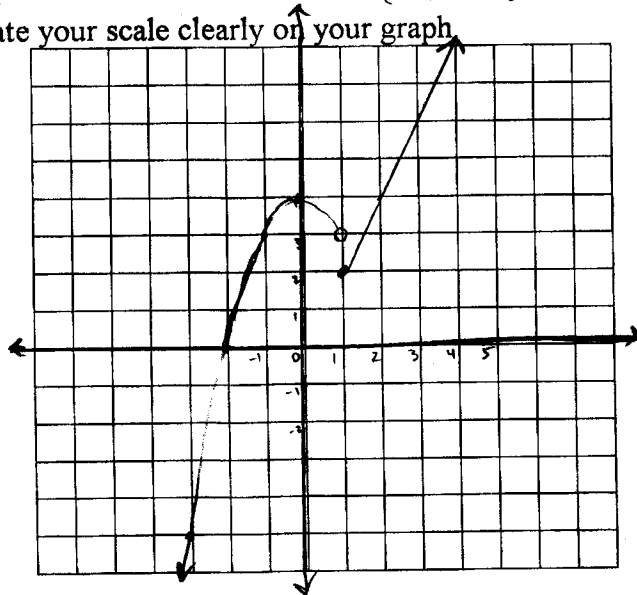
Show all work neatly. Use of calculators is not permitted.

1. Graph the piecewise defined function $g(x) = \begin{cases} 4 - x^2, & \text{if } x < 1 \\ 2x, & \text{if } x \geq 1 \end{cases}$ below.

Be sure to indicate your scale clearly on your graph

x	$4 - x^2$
1	$4 - 1 = 3$
0	$4 - 0 = 4$
-1	$4 - 1 = 3$
-2	$4 - (-2)^2 = 0$
-3	$4 - (-3)^2 = -5$

x	$2x$
1	2
2	4
3	6
4	8



2. Let $y = f(x)$ be the function described by the graph below. Complete the following:

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

b) The range of $f(x)$ is $[1, 6]$ or $1 \leq y \leq 6$

c) Find $f(2) = \underline{1}$.

d) Find $f(4) = \underline{3}$.

e) The average rate of change of $f(x)$ between $x = 2$ and $x = 4$ is $\frac{3-1}{4-2} = \frac{2}{2} = 1$

