

Math 156 PRECALCULUS
Fall 2015

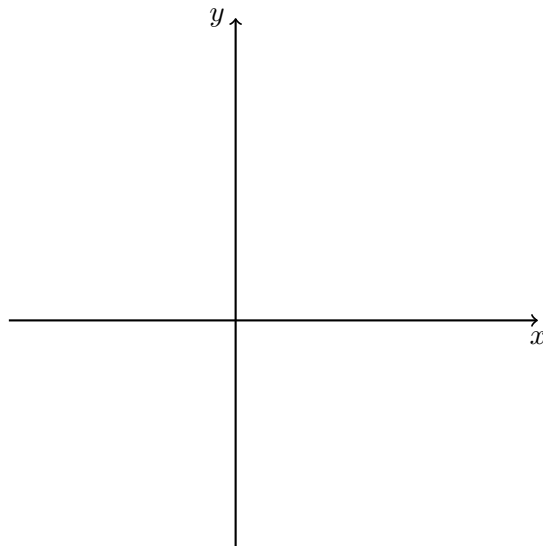
Quiz 4 – Version One

Thursday, October 1, 2015

Name: _____

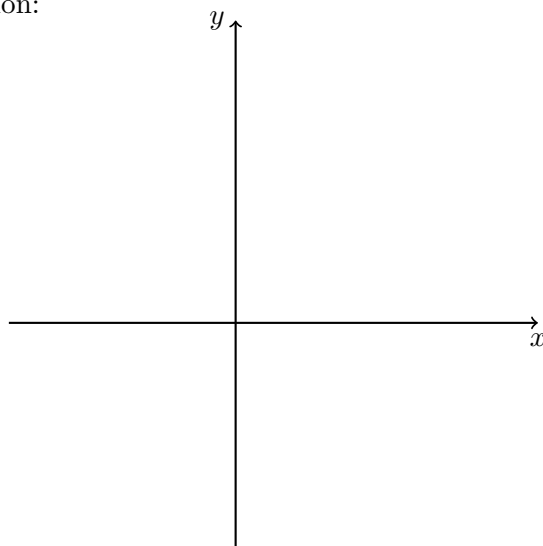
This quiz has 5 problems worth a total of 30 points. It is TWO SIDED.

1. (5 points) For the function $g(x) = \sqrt{x+3}$, (i) make a table of values and then (ii) sketch the graph on the axes below.

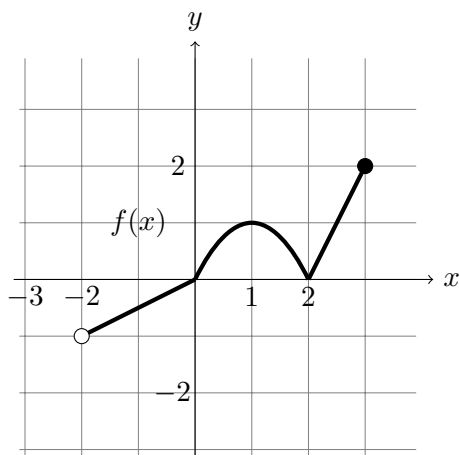


2. (5 points) Sketch a graph of the piecewise defined function:

$$f(x) = \begin{cases} 4 & \text{if } x < -2 \\ x^2 & \text{if } -2 \leq x < 2 \\ x - 1 & \text{if } 2 \leq x \end{cases}$$



3. (10 points) Answer the questions using the graph of $f(x)$ shown below.



domain of $f(x)$ is: _____

range of $f(x)$ is: _____

$f(1) =$ _____

Solve $f(x) = 0$: _____

Give the intervals on which

$f(x)$ is increasing. _____

4. (4 points) For $f(x) = \frac{1}{x}$, find the **net change** from $x = 2$ to $x = 2 + h$, and simplify your answer. You must show your work to receive credit.

Answer: _____

5. (6 points) For $f(x) = 1 - 3x^2$, find the **average rate of change** from $x = a$ to $x = a + h$ and simplify your answer. You must show your work to receive credit.

Answer: _____