

Math 1031, Self-Evaluation Exercise 1
October 26, 2009

Name: _____

Discussion Section: _____

Discussion TA: _____

This exercise is for your practise. There are four open-ended problems. Give yourself 20 minutes to complete the exercise, and see how you do.

1. Consider $f(x) = 2|x - 1| + 3$

a.) What basic curve can you use to help you graph this function?

$y =$ _____

b.) Graph the basic curve in (a).

c.) Graph $f(x)$.

2. If $f(x) = x^2 - 6$, $x \geq 0$

a.) Find the inverse function $f^{-1}(x)$.

b.) Verify that $(f \circ f^{-1})(x) = x$ and $(f^{-1} \circ f)(x) = x$.

c.) Graph $f(x)$ and $f^{-1}(x)$ on the same set of axes.

3. Find two numbers whose sum is 30 and whose product is a maximum.

4. Graph $f(x) = -x^3 - x^2 + 6x$.