Math 1271 - Lecture 050 **Name (Print):** _____
Spring 2018
Quiz II
2/1/18
Time Limit: 20 Minutes Section _____

You may *not* use your books, notes, graphing calculator, phones or any other internet devices on this exam.

You are **required** to show your work on each problem on this quiz. If you are unable to demonstrate your answer in full rigor, supporting evidence may possibly be redeemed for partial credit.

Problem	Points	Score
1	4	
2	6	
Total:	10	

1. (4 points) Let $f(x) = 3\cos(\pi x) - e^x$. Show that f has a root in the interval $[0, 1]$. State explicitly which theorem you are using (if applicable) and why it is appropriate to apply in this situation.

2. (6 points) Sketch a graph $y = f(x)$ for a function f satisfying *all* of the following properties (you do not need to provide a formula for f unless you want to):
$\lim_{x\to-\infty} f(x) = -3$, $\lim_{x\to-1^+} f(x) = -2$, $\lim_{x\to 0} f(x) = -\infty$, $\lim_{x\to 2} f(x) = 3$, $f(2) = 6$,
$\lim_{x\to\infty} f(x) = 2$, there are only two real numbers at which f is *not* continuous.