Your name: _____

MTH 132-020 **Calculus I** **F18**

Quiz 2

1. Fill in the blanks:

Definition: Let f be a _____ defined on some _____ interval that contains the number a, except possibly at _____ itself. Then we say that the limit of $f(x)$ as x approaches a is L, and write

$$\lim_{x \to a} f(x) = \_\_\_\_\_$$

if for every number $\epsilon > 0$ there is a number $\delta > 0$ such that

$$\text{if} \quad 0 < |\_\_\_\_\_| < \delta \quad \text{then} \quad |\_\_\_\_\_ - L| < \_\_\_\_\_ .$$

2. On which of the following intervals is the greatest integer function $[\![x]\!]$ continuous? Circle all correct answers.

(a) (0,2) (b) [0,1) (c) (0,1) (d) (0,1]

3. Show that there exists a number c in the open interval $(0, \frac{\pi}{2})$ such that $2c - \sin(c) = 0.2$.(I changed the problem from the actual quiz so that is has a solution)

4. Use the definition of the derivative to compute the derivative of $x^2 - 7$ at 2.