

Math 1271 Quiz 2

February, 6, 2014

Name: _____

TA: _____

NO CALCULATORS. NO HANDHELD DEVICES. NO BOOKS OR REFERENCE MATERIALS OF ANY KIND.

Time allowed: 20 minutes; Grader : Amit Sharma. Good luck!

1. (35 points) Evaluate the following limit

$$\lim_{x \rightarrow 9} \frac{3 - \sqrt{x}}{9x - x^2}$$

2. (15 points) State whether the following statement is true or false:

$$\lim_{x \rightarrow \pi} \sin(x + \sin(x)) = \frac{\sqrt{3}}{2}.$$

3. (15 points) State whether the following statement is true or false:

The following function

$$f(x) = \begin{cases} \sin(x) & \text{if } x < \frac{\pi}{4}; \\ \cos(x) & \text{if } x \geq \frac{\pi}{4}; \end{cases}$$

is continuous on $(-\infty, \infty)$.

PLEASE SEE THE OTHER SIDE FOR MORE PROBLEMS.

4. (35 points) Evaluate the following limit.

$$\lim_{x \rightarrow 0^-} \left(\frac{1}{x} - \frac{1}{|x|} \right).$$

PLEASE SEE THE OTHER SIDE FOR MORE PROBLEMS.