Math 171 - Quiz 2

Name _____

August 29, 2018

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Use a table of values to estimate the following limit. Your table must show function values at six or more points. (Be in radian mode!)

$$\lim_{x\to 0} \frac{\tan 2x}{5x\cos 7x}$$

2. (2 points) We discussed four common ways a limit can fail to exist. In which of the four ways does the following limit fail to exist? Briefly explain your reasoning.

$$\lim_{x\to 0} \frac{(3x^2+7)|x|}{x}$$

3. (2 points) Why can't the limit laws be used to evaluate the following limit? (You need not evaluate the actual limit.)

$$\lim_{x\to 2} \frac{x^2-5x+6}{x-2}$$

4. (3 points) Evaluate each limit analytically. DO NOT USE A CALCULATOR.

   (a) $\lim_{x\to 9} (5\sqrt{x} - \sin(\pi x) + x^2 - 1)$

   (b) $\lim_{x\to 3} \frac{x^3-7x}{2x^2-x}$