

Math 157 - Quiz 3

September 7, 2016

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. YOU MUST WORK INDIVIDUALLY.

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

$$\lim_{x \rightarrow 0} \frac{e^{-3x} - 1}{x}$$

2. (2.5 points) Use algebra to find the limit analytically.

$$\lim_{x \rightarrow 2} \frac{3x - 6}{2x^2 + x - 10}$$

3. (2.5 points) Use algebra to find the limit analytically.

$$\lim_{r \rightarrow -1} \frac{3(r+2)^2 + 6r + 3}{r+1}$$

4. (2 points) Let $f(x) = (x^2 + 3)\ln(x + 1)$. Compute the limit of $f(x)$ as $x \rightarrow 3$.