

Name and surname:

U number:

Calculus I - MAC 2311 - Section 003

Quiz 8

11/19/2018

Instructions: The total number of points of this quiz is 10. You will get an extra point if you solve correctly the last exercise.

Compute the following limits:

1) [3.5 points] $\lim_{x \rightarrow 0} \frac{\cos(x) - e^x}{\sin(x) + 2x}$

2) [3.5 points] $\lim_{x \rightarrow \infty} x^3 e^{-x^2}$

3) [3 points] $\lim_{x \rightarrow 0^+} (e^x + x)^{\frac{1}{x}}$

4) A student writes:

$$\lim_{x \rightarrow 0^+} \frac{e^x + 1}{x} = \lim_{x \rightarrow 0^+} \frac{(e^x + 1)'}{(x)'} = \lim_{x \rightarrow 0^+} \frac{e^x}{1} = 1.$$

Do you agree or disagree with the student? Justify your answer. Moreover, if you disagree compute the correct value of the limit.