



Bilkent University

Quiz # 10
Math 101-Section 05 Calculus I
30 November 2023 Thursday
Instructor: Ali Sinan Sertöz



Name & Lastname:

Department:

Student ID:

Q-1)

(a) Calculate $\lim_{x \rightarrow 0} \frac{\ln(x+1)}{x}$ without using L'Hospital's rule.

(b) Evaluate $\int_0^{\pi/2} e^{\sin x} \sin 2x \, dx$.

Hint: What is $\frac{d}{dt}[e^t(t-1)] = ?$

(c) Show that the tangent line to the curve $y = e^x$ at $x = 2024$ intersects x -axis at $x = 2023$.

Grading: 3+4+3=10 points

Solution: (Grader: rburakguler71@gmail.com)