



Bilkent University

Quiz # 11  
Math 101-Section 05 Calculus I  
7 December 2023 Thursday  
Instructor: Ali Sinan Sertöz



Name & Lastname: .....

Department: .....

Student ID: .....

---

**Q-1)** Let  $f(x) = \frac{x}{\ln x}$ , for  $1 < x < \infty$ .

- (a) Find the minimum value of  $f(x)$  on  $(1, \infty)$ .
- (b) Let  $a > 1$ ,  $a \neq e$ , be a real number. Find out which one is larger,  $e^a$  or  $a^e$ .
- (c) Find out which one is larger,  $e^\pi$  or  $\pi^e$ .

Show your work in detail. Correct answers with no justification will not get any credit.

Grading: 4+5+1=10 points

**Solution:** (Grader: [taha.yigit@ug.bilkent.edu.tr](mailto:taha.yigit@ug.bilkent.edu.tr))