

Bilkent University

Math 101-Section 13

Fall 2023

Name-Surname:

Student ID:

Department:

QUIZ 1

- 1) Evaluate $\lim_{x \rightarrow 2} f(x)$ when f is defined as follows.

$$f(x) = \begin{cases} (x-2)^2, & x \leq 2 \\ \frac{1}{(x-2)^2}, & x > 2 \end{cases}$$

- 2) Find the values of the constant a so that the function $f(x)$ is continuous on $(-\infty, \infty)$, where

$$f(x) = \begin{cases} 2 - 2a^2x, & x < -1 \\ 6 - 7ax^2, & x \geq -1 \end{cases}$$

Explain your solutions in detail.