

National University of Computer and Emerging Sciences

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MT1003 Calculus and Analytical Geometry

Homework 09

Q No. 01: Evaluate:

$$\int_2^3 \frac{1}{x^2 - 1} dx$$

Q No. 02: The integral

$$\int_0^{\infty} \frac{1}{\sqrt{x}(1+x)} dx$$

is improper for two reasons. Mention the reasons and evaluate the integral.

Q No. 03: Find the value of p for which the integral converges and evaluate the integral for that value of p .

$$\int_e^{\infty} \frac{1}{x(\ln x)^p} dx$$