

SAPIENZA university of Rome
Bachelor of science in ACSAI
Calculus 1 U2 exam

Nadia Ansini

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Exercise 1

$$\begin{cases} y' = \frac{1}{x^2 y} \\ y(-1) = -2 \end{cases}$$

Exercise 2

Find the convergence, radius and interval.

$$\frac{(-2)^n \cdot (x-3)^n}{\ln(n)}$$

Exercise 3

Study the convergence.

$$\sum \frac{3^n + n^3}{5^n + n^5}$$

Exercise 4

Solve this.

$$\int_{-3}^{+3} \frac{4x-2}{x^3-x} dx$$

Exercise 5

Solve this.

$$\int \frac{\ln(x)}{\sqrt{x}} dx$$