Make-up homework for quiz 4
Deadline: August 16th 6:59pm

Each problem is worth 3 marks.

Problem 1. Consider the differential equation
\[ \frac{dy}{dx} = (y-1)e^x. \]

(a) Find all solutions of the differential equation above.
(b) Find the solution of the differential equation above that satisfies \( y(0) = 5 \).
(c) Find the solution of the differential equation above that satisfies \( y(0) = 1 \).

Problem 2. Compute the following series
\[ \sum_{n=1}^{\infty} -\frac{e^n + 4}{3^{2n-1}}. \]