Math 101: Calculus I Semester 091 Quiz 3

Name: …… ID: …… Section: 1 Serial: ……..

Answer the following questions.

Question 1: Find the equation of the normal line to the curve $f(x) = x^3 + 2e^{-x}$ at $(0, 2)$.

Question 2: Differentiate $f(x) = \dfrac{1 - xe^x}{x + e^x}$.

Question 3: If $f(x) = \sec(x)$, then find $f''(\pi / 4)$.

Question 4: Find the limit, if exists, $\lim_{x \to 1} \dfrac{\sin(x-1)}{x^2 + x - 2}$.