

Show all work clearly and in order. Justify your answers. You have 15 minutes for this quiz.

PROBLEM ONE Find the derivative of the following functions:

(a) $f(x) = \log(x^3 + 3e^{4x})$

(b) $g(t) = e^{\sin(2t^2)} + 2t^3$

PROBLEM TWO Compute the indefinite integral

$$\int \frac{\log(x)}{x} + xe^{4x^2} dx$$