

King Fahd University of Petroleum & Minerals

Department of Mathematical Sciences

MATH - 102-04

Semester 121

Quiz - 1

Name: _____ ID# _____

Problem 1.

If f is a continuous function such that

$$\int_0^x f(t)dt = xe^{2x} + \int_0^x e^{-t}f(t)dt \quad \text{for all } x,$$

find an explicit formula for $f(x)$.

Problem2.

Evaluate

$$\int \frac{\cos(\ln x^2)}{x} dx$$