

Student Name: _____ Student Number: _____

Serial No.: _____

Instructor: M. Z. Abu-Sbeih

Math - 132.1

Quiz No. 5

Date: 1- 5 -2016.

Question 1: (8 points) Find the derivative of the function $f(x) = x \cot x + \sec x^2$.

Question 2: (8 points each) Evaluate the following integrals:

(a) $\int x \ln x \, dx$

(b) $\int \frac{\sin x}{1 - \cos x} \, dx$

(c) $\int e^x \cos x \, dx$

(d) $\int \frac{dx}{\sqrt{x^2 + 4x}}$

HINT: Use the integral: $\int \frac{du}{\sqrt{u^2 \pm a^2}} = \ln \left| u + \sqrt{u^2 \pm a^2} \right| + C$