

Student Name: _____ Student Number: _____

Serial No.: _____

Instructor: M. Z. Abu-Sbeih

Math - 132.1

Quiz No. 5

Date: 25-12-2004.

Problem 1: Find $f'(x)$ for each of the following

(a) $f(x) = \sqrt{\sin(\ln x)}$

(b) $f(x) = \cot^3 x^2$

Problem 2: Evaluate the following integrals:

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

(b) $\int \frac{\cos x \, dx}{(1 + \sin x)^2}$

Problem 3: Use the integral: $\int \frac{du}{(u^2 \pm a^2)^{\frac{3}{2}}} = \frac{\pm u}{a^2 \sqrt{u^2 \pm a^2}} + C$ to evaluate

$$\int \frac{dx}{(x^2 + 4x + 5)^{\frac{3}{2}}}$$

Student Name: _____ Student Number: _____

Serial No.: _____

Instructor: M. Z. Abu-Sbeih

Math - 132.2

Quiz No. 5

Date: 25-12-2004.

Problem 1: Find $f'(x)$ for each of the following

(a) $f(x) = \sqrt{\cos(\ln x)}$

(b) $f(x) = \sec^2 x^3$

Problem 2: Evaluate the following integrals:

(a) $\int \frac{\cos x \, dx}{(1 - \sin x)^3}$

(b) $\int x e^x \, dx$

Problem 3: Use the integral: $\int \frac{du}{(u^2 \pm a^2)^{\frac{3}{2}}} = \frac{\pm u}{a^2 \sqrt{u^2 \pm a^2}} + C$ to evaluate

$$\int \frac{dx}{(x^2 + 6x + 10)^{\frac{3}{2}}}$$