

King Fahd University of Petroleum and Minerals  
Department of Mathematics & Statistics  
Math102.27      Spring 2012 (112)      Quiz (3)

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1. Evaluate the following integrals:

(a)  $\int_1^e x \ln x \, dx$

(b)  $\int_0^{\ln 4} \frac{e^x}{\sqrt{e^{2x} + 9}} \, dx$

$$(c) \int_0^{\frac{\pi}{4}} 4\tan^3 x \, dx$$

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

**Good luck**  
**Khaled Al-Anezy**