

King Fahd University of Petroleum and Minerals  
Department of Mathematical Sciences  
**Math 102(12&17) Quiz 6(Take Home) Spring 2004(042)**

ID#: \_\_\_\_\_ NAME: \_\_\_\_\_

Sec# \_\_\_\_\_ Serial# \_\_\_\_\_

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(1) Evaluate each of the following (Sec. 8.1)

(i)  $\int (4 - 2x)^5 dx$       (ii)  $\int x \sin(x^2) dx$       (iii)  $\int \sinh^2 x \cosh x dx$       (iv)  $\int x 6^{x^2} dx$ .

(2) Evaluate each of the following (Sec. 8.2)

(i)  $\int x e^{5x} dx$       (ii)  $\int x^2 \sin 2x dx$       (iii)  $\int 3x \ln(2x) dx$       (iv)  $\int \sin^{-1}(5x) dx$ .

(3) Evaluate each of the following (Sec. 8.3)

(i)  $\int \sin^3(2x) dx$       (ii)  $\int \cos^4 x dx$       (iii)  $\int \sin(6x) \cos(4x) dx$       (iv)  $\int \tan x \sec^4 x dx$

(4) Evaluate each of the following (Sec. 8.4)

(i)  $\int \frac{dx}{\sqrt{3-x^2}}$       (ii)  $\int_0^{\pi} \frac{\cos \theta d\theta}{\sqrt{4-\sin^2 \theta}}$       (iii)  $\int \frac{\sqrt{3x^2-2} dx}{x}$       (iv)  $\int \frac{dx}{x^2+5x+9}$ .

(5) Evaluate each of the following (Sec. 8.5)

(i)  $\int \frac{x^2-6}{x(x-1)^2} dx$       (ii)  $\int \frac{x^4}{x^4-1} dx$       (iii)  $\int \frac{\ln x}{(x+1)^2} dx$  (Sec 8.2 & 8.5).      (iv)  $\int \frac{\cos \theta}{\sin^2 \theta + 4 \sin \theta - 5} d\theta$

Dr. M. R. Alfuraidan