King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 102 (162) Sec 35 - Quiz II

Name: ID: Serial No.:

1. If f is an integrable function and $\int_1^3 (2 - f(2x))dx = \int_3^5 (x + f(2x))dx$. Find the

   value of $\int_2^{10} f(x)dx$

2. Evaluate $\int 60x^7\sqrt{x^4 + 1}dx$

3. Evalate $\int_0^{\pi/4} \dfrac{\sin(4x)}{1 + \sin^2(2x)} dx$

4. Find the area of the region enclosed by the curve $y^2 = \frac{1}{x}$, $x = y$ and $y = 3$

5. Find the volume of the region bounded by $y = x^3$, $y = 0$ and $x = 1$ is revolved about the line $x = 2$.

6. Find the volume of the solid that results when the region enclosed by $x = y^2$ and $x = y$ and is revolved about $y = -1$

7. Find the area enclosed by $y = x^2$ and $y = \dfrac{2}{x^2 + 1}$