King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 102 (162) Sec 30 - Quiz 2

Name: ID: Serial No.:

1. If $\int_4^7 f(x)dx = 5$, then $\int_1^4 \frac{f(3\sqrt{x}+1)}{\sqrt{x}}dx$

2. Evaluate $\int_0^3 x\sqrt{81-x^4}dx$

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

4. Find the area enclosed by the line $x + 2y = 1$ and the parabola $y^2 = 4 - x$

5. Find the volume of the solid generated by rotating the region enclosed by the curves $y = \sqrt{x}$ and $y = \frac{x}{3}$ about the line $x = -1$.

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 $y = \dfrac{2}{x^2 + 1}$