

King Fahd University of Petroleum & Minerals
Department of Mathematical Sciences
First First Semester (20041), 2004 – 2005
Math-102, Quiz-1

Section:

ID Number:

Name:

1. Show that the area of the surface of a sphere of radius r is $4\pi r^2$.

$$\int_0^{\frac{\pi}{3}} \sin^4 3x \cos^3 3x dx$$

2. Find the volume V of the solid generated when the region bounded by

$$y = \frac{1}{1+x^4}, \quad y = 0, \quad x = 1, \quad \text{and } x = b, \quad b > 1. \quad \text{Find } \lim_{b \rightarrow +\infty} V = ?$$

3. Evaluate integral

$$\int \sin(\ln x) dx$$