Math 208 Worksheet 7.1
Dr. Ougouag

Evaluate the integral.

1) $\int -6x \cos 9x \, dx$ 1) _____

2) $\int 19x \sin x \, dx$ 2) _____

3) $\int e^{5x} \cos 4x \, dx$ 3) _____

4) $\int_0^{1/3} y \tan^{-1} 3y \, dy$ (Give your answer in exact form.) 4) _____

Solve the problem.

5) Find the volume of the solid generated by revolving the region bounded by the curve $y = 2\cos x$ and the x-axis, $\frac{\pi}{2} \le x \le \frac{3\pi}{2}$, about the x-axis. 5) _____

Evaluate the integral by using a substitution prior to integration by parts.

6) $\int \cos (\ln x) \, dx$ 6) _____

Solve the problem.

7) The charge q (in coulombs) delivered by a current i (in amperes) is given by $q = \int i \, dt$, where t is the time (in seconds). A damped-out periodic wave form has current given by $i = e^{-3t} \cos 5t$. Find a formula for the charge delivered over time t. 7) _____