

Math 125

Quiz 4 (20 minutes)

Tuesday, February 4, 2003

Name \_\_\_\_\_ Student number \_\_\_\_\_ Quiz section: \_\_\_\_\_

**1 :** (5 pts) A tank full of water has the shape of a hemisphere. Its diameter is 10m. The density of water is  $1000\text{kg/m}^3$ . Set up an integral for the work required to pump the water out of the tank. DO NOT EVALUATE THE INTEGRAL.

**2 :** (5 pts) Find the average value of the function  $f(x) = \frac{x}{x^2 + 1}$  on the interval  $[0, 2]$ .