

Math 265, Section E2 - Quiz 10

7 April 2006

Name: _____

DIRECTIONS: Answer the following questions or execute the following commands below. You may NOT use a calculator. Remember, you are an attorney and I am a jury of 12 people. You must convince me beyond a reasonable doubt that your answers are correct by showing work and *writing neatly*. Should you have any questions, do not hesitate to ask them. There are questions on the back!

1. Set up, but do not evaluate, an iterated double integral that correctly gives the surface area of a hemisphere of radius a .

2. Fill in the blank: $\iiint_S 1 \, dV$ gives the _____ of the solid S .

3. Set up, but do not evaluate, the triple integral of $f(x, y, z) = 2xyz$ over the solid region S that is bounded by the parabolic cylinder $z = 2 - \frac{1}{2}x^2$ and the planes $z = 0$, $y = x$, and $y = 0$.

4. Evaluate the following iterated integral:

$$\int_{-2}^5 \int_0^{3x} \int_y^{x+2} 4 \, dz \, dy \, dx$$