

QUIZ 3  
(November 6, 2008)

NAME: .....

**Problem 1.** (25 points) Evaluate the double integral  $\iint_D x\sqrt{x^2+y^2} dA$  where  $D$  is the region bounded by the semicircle  $\{x^2+y^2=1, y \geq 0\}$  and the line  $y=0$ .

**Problem 2.** (25 points) Evaluate the double integral  $\iint_D xy dA$  where  $D$  is the region bounded by  $y=x^2$  and the line  $y=4$ .

**Problem 3.** (25 points) Evaluate the integral  $\iiint_E \sqrt{x^2 + y^2 + z^2} dV$  where  $E$  is bounded by the  $xy$ -plane and the hemisphere  $\{x^2 + y^2 + z^2 = 4, z \geq 0\}$ .

**Problem 4.** (25 points) Evaluate the integral  $\iiint_E x^3 dV$  where  $E$  is the solid tetrahedron bounded by the coordinate planes  $x = 0$ ,  $y = 0$ ,  $z = 0$ , and the plane  $2x + y + z = 2$ .