MA 227 §12.3–12.5, §12.7	**Quiz #5**	*score*	**Name:** _____ **19 July 1999**

1. Evaluate the integral by reversing the order of integration. *(5 points)*

$$\int_0^1 \int_y^1 \sin(x^2)\, dx\, dy$$

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2. Use double integrals to find the volume of the solid bounded above by the cone $z = 4 - \sqrt{x^2 + y^2}$ and below by the xy-plane. *(5 points)*

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3. Find the center of mass of the lamina bounded by the x-axis and the curve $y = \cos^2 x$ between $x = -\frac{\pi}{2}$ and $x = \frac{\pi}{2}$ if the mass density function is $\rho(x, y) = y$. *(6 points)*

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4. Set up (but do not evaluate) the following triple integral as an iterated integral where S is the solid located in the first octant bounded by the coordinate planes, the surface $z = 1 - y^2$ and the plane $x + y = 1$. *(4 points)*

$$\iiint_S f(x, y, z)\, dV$$