

“QUIZ” for Nov. 23, 2009

NAME: (print!) _____ **Section:** _____

E-MAIL ADDRESS: (print!) _____

Evaluate the surface integral $\int \int_S \mathbf{F} \cdot d\mathbf{S}$ for the given vector field \mathbf{F} and oriented surface S .

$$\mathbf{F}(x, y, z) = \langle xy, yz, zx \rangle \quad ,$$

and S is the part of the paraboloid $z = 1 - x^2 - y^2$ that lies above the square $0 \leq x \leq 1, 0 \leq y \leq 1$ and has upward orientation.