

“QUIZ” for Dec. 3, 2009

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

E-MAIL ADDRESS: (print!) _____

By using Stokes' Theorem, or otherwise, evaluate $\int_C \mathbf{F} \cdot d\mathbf{r}$, where

$$F(x, y, z) = (yz + 2y + 3z)\mathbf{i} + (xz + 2x + 4z)\mathbf{j} + (xy + 3x + 4y)\mathbf{k} \quad ,$$

where C is the curve of intersection of the plane $x + y + z = 1$ and the cylinder $x^2 + y^2 = 1$, oriented counterclockwise as viewed from above. Be sure to explain everything.