

“QUIZ” for Dec. 7, 2006

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

E-MAIL ADDRESS: (print!) _____

By using the divergence theorem, or otherwise, compute $\iint \mathbf{F} \cdot d\mathbf{S}$ if S is the sphere $(x - 1)^2 + (y - 2)^2 + (z + 4)^2 = 25$, and $F(x, y, z) = (2x + 3yz + z^3)\mathbf{i} + (x^2 - 4y + xz)\mathbf{j} + (3x^2 + 7y + 2z)\mathbf{k}$.