MATH 202: VECTOR CALCULUS
HOMEWORK FOR WEDNESDAY WEEK 13

Problem 1. Use the divergence theorem to evaluate

$$\int_{\mathcal{C}} ze^{x^2}\, dy \wedge dz + 3y\, dz \wedge dx + (2 - yz^7)\, dx \wedge dy$$

where $\mathcal{C}$ consists of the five "upper" faces of $\partial\Delta^3$ (so $\Delta^3_{3,0}$ is *not* included in the sum). Note that $\mathcal{C}$ is not the boundary of a solid region, and you will have to close it up in order to apply the divergence theorem.