Name:
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MAC 2313.9256
Cyr

Quiz 13
You must show all work to receive full credit!!

Problem 1. (5 pts) Set up (but do NOT evaluate) $\iint_{\mathcal{S}} \mathbf{F} d\mathbf{S}$, where $\mathbf{F} = \langle x+y, z-2, x^2 \rangle$ and $\mathcal{S}$ is the portion of the plane $2x + 4y + z = 8$ in the first octant $(x, y, z \geq 0)$ oriented such that the normal vector points down.

Problem 2. (5 pts) Evaluate $\oint_{\mathcal{C}} xy\,dx + 2xy\,dy$ without parameterizing $\mathcal{C}$, where $\mathcal{C}$ is the triangle with vertices $(0,0), (2,0)$, and $(2,4)$ oriented counterclockwise. (Hint: use Green's Theorem.)