Name: _____

Calculus 251:C3   Quiz #26 - 7/21/2021   Topic: Section 16.8

Instructions. Answer the questions in the spaces provided or on your own paper, then scan and upload to Canvas. <u>Show and label all of your work.</u> Responses with no work may receive no credit even if the answer is correct.

10 pts   (1) Let $\vec{F} = (e^{yz} - 4xz)\,\hat{\mathbf{i}} + (e^{xz} + 4yz)\,\hat{\mathbf{j}} + (x^2 + y^2)\,\hat{\mathbf{k}}$, and let $\mathcal{S}$ be the part of the paraboloid $z = 9 - x^2 - y^2$ above the xy-plane, oriented with upward-pointing normal.

Use the Divergence Theorem to calculate the flux of $\vec{F}$ through $\mathcal{S}$.