
Show all work. 5 points each.

1) Set up the surface integral $\iint_S z \, dS$ where $z = 4 - 2x - 2y$.

2) Set up the surface integral $\iint_S \mathbf{F}(x, y, z) \, d\mathbf{S}$ where $\mathbf{F}(x, y, z) = \langle y, x, z \rangle$ and S is the surface defined by $g(x, y) = xy$.