

Show all work. 5 points each.

1. State Stokes Theorem and use it to evaluate $\int_C \mathbf{F} \cdot d\mathbf{r}$ where $\mathbf{F}(x, y, z) = \langle yz, 2xz, e^{xy} \rangle$ and C is the circle with $x^2 + y^2 = 16$, $z = 5$.