

Quiz–Stokes' Theorem

Let $\vec{c}(t)$ be a curve around the irregular pentagon in the $z = 1$ plane with vertices $(0,0,1)$, $(0,1,1)$, $(1,2,1)$, $(2,1,1)$, and $(2,0,1)$ oriented according to the upward unit normal, and \vec{F} be the vector field (x, y, xy) . Compute $\int_C \vec{F} \cdot d\vec{s}$.

Show all work and clearly mark your final answer. No calculators/notes allowed. Partial credit will be given for correctly explaining any steps you're unable to carry out, as well as demonstrating correct methods with computational errors.