

1. Suppose that $\mathcal{C}$ has length 5. What is the value of $\int_{\mathcal{C}} \mathbf{F} \cdot d\mathbf{s}$ if (1 pt.)

(b) $\mathbf{F}(P)$ is a unit vector in the negative direction along the curve?

2. Compute the integral of $\mathbf{F}(x, y) = \langle 4, y \rangle$ along the quarter of a circle $x^2 + y^2 = 1$ with $x \leq 0$, $y \leq 0$ oriented counterclockwise (9 pt.)