

1. Evaluate $\int_C \mathbf{F} \cdot d\mathbf{r}$ if the curve C is given by

a) $\mathbf{F} = \langle 3x^2y^2 + 3, 2x^3y - y^2 \rangle$

b) $\mathbf{F} = \langle y, 0 \rangle$