

(Easier) Practice Quiz 4 Calc 3 11/12/12

1. Compute $\int_C (6xy\vec{i} + 3x^2\vec{j}) \cdot d\vec{r}$ for a path beginning at $(3, 0)$ and ending at $(0, -3)$.

2. Compute $\int_C \langle y^2, xy \rangle \cdot d\vec{r}$ for a path C given by $\vec{r}(t) = \langle 2 + 3t, 1 - 5t \rangle$ for $0 \leq t \leq 1$.

(Harder) Practice Quiz 4 Calc 3 11/12/12

1. Compute $\int_C \vec{F} \cdot d\vec{r}$ for the vector field $\vec{F}(x, y) = \langle 2xy, x^2 - 6y \rangle$ and with C the sinusoidal path beginning at $(3, 0)$ and ending at $(-3, 0)$ and performing 17 complete oscillations on this interval.

2. Compute $\int_C \vec{F} \cdot d\vec{r}$ for the vector field $\vec{F}(x, y) = x^2 y \vec{i} + y^3 \vec{j}$ and with C an arc of a circle (centered at the origin) of radius 3 passing counterclockwise through the first and second quadrants.