

(Easier) Practice Quiz 5    Calc 3    11/15/2010

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 5    Calc 3    11/15/2010

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.