

WRITE YOUR NAME:

MAC 2313 Quiz 22
Tuesday April 16th

Let \mathbf{F} be the vector field defined by

$$\mathbf{F}(x, y) = (2x + 3y, 3x - 2y)$$

and let C be the curve parametrized by

$$\mathbf{r}(t) = (x, y) = (\sin t, \cos t \sin^2 t), \quad 0 \leq t \leq \pi/2.$$

Evaluate the integral $\int_C \mathbf{F} \cdot d\mathbf{r}$ using any correct methods and/or shortcuts.