

**Quiz 12**; Wednesday, April 20  
**MATH 53** with Professor Stankova  
**Section 109**; 11-12  
**GSI**: Eric Hallman

**Student name:**

You have 10 minutes to complete the quiz. Calculators are not permitted, and remember to show your calculations and explain your reasoning in order to receive full credit.

1. If  $\mathbf{F}(x, y) = \langle y, -x \rangle$ , find the work that the force field  $\mathbf{F}$  does on a goat running once **clockwise** around the unit circle.