

**Quiz 11;** Wednesday, April 13  
**MATH 53** with Professor Stankova  
**Section 116;** 3-4  
**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. Evaluate the following integral by making the change of coordinates  $u = x - 2y, v = 3x - y$ :

$$\iint_R \frac{x - 2y}{3x - y} dA$$

where  $R$  is the parallelogram enclosed by the lines  $x - 2y = 0, x - 2y = 4, 3x - y = 1, 3x - y = 8$ .