

# Math 53 Quiz 6

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Name: \_\_\_\_\_

Time (circle one):

12:10 - 1:00

3:10 - 4:00

Evaluate the integral

$$\iint_R [x^2 + xy] dA$$

where  $R$  is the region inside the circle  $(x - 2)^2 + (y - 1)^2 = 1$ .

*Some hints and reminders from Math 1A/B: (a)  $\sin \theta \cos \theta = \frac{1}{2} \sin(2\theta)$ . (b) The average values of  $\sin^2$  and  $\cos^2$  are  $1/2$ . (c) Odd functions are your friends. (d) Do the easy integrals first.*

Please use extra paper as necessary. For each part, partial credit will be assigned based on correct work (you do need to show some work, enough so that I know how you solved the problem). Please simplify and box your answers.