

Math 240 Fall 2011
Quiz 6
TA: Matti Åstrand

Name: _____

Show all work clearly and in order, and box your final answers. You have 10 minutes to take this quiz.

- 1.** (5 points) Write the general solution of the differential equation

$$y'' = -y - y'.$$

- 2.** (10 points) Compute the double integral $\iint_R y^2 dx dy$, where R is the region inside the ellipse $x^2/4 + y^2/9 = 1$, using the change of variables:

$$\begin{cases} x = 2r \cos(\theta) \\ y = 3r \sin(\theta) \end{cases}, \quad 0 \leq r \leq 1, \quad 0 \leq \theta \leq 2\pi$$