

**QUIZ 6 MATH 251-504**

LAST NAME \_\_\_\_\_ FIRST NAME \_\_\_\_\_

On my honor, as an Aggie, I certify that the solution submitted by me on 21th of October 2011 is my own work. I had neither given nor received unauthorized aid on this work.

Signature: \_\_\_\_\_

**Due FRIDAY 10/21/2011 at the beginning of class.**

- If turned in later than 10 minutes into class, 5 points off. No papers will be accepted after class.
- If you turn it in to my office (Milner 324), place it in my mailbox (Milner 130) or e-mail a PDF-version to me, make sure you do it before 10:45 am, FRIDAY 10/21/2011.
- Your work must be neat, easy to follow.
- You may use notes and textbook, but not the help of anything else.
- **BOX YOUR FINAL ANSWERS.**

1. Evaluate the line integral  $\int_C xy^2 dx - y dy$  where  $C$  is the upper half of the circle  $x^2 + y^2 = 1$  followed by the line segment from the point  $(-1, 0)$  to  $(-1, 3)$ .

2. Let  $D$  be the closed triangular region with vertices  $O(0, 0)$ ,  $M(1, -1)$ , and  $P(1, 1)$ . Find the absolute minimum and absolute maximum values of the function  $f(x, y) = 1 - 2x^2 - y^2 - y$  on the region  $D$ .

3. Find the absolute minimum and absolute maximum values of  $f(x, y) = e^{x^2+y^2-xy}$  on the region

$$D = \{(x, y) | x^2 + y^2 \leq 4, x \geq 0\}.$$