

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
**DEPARTMENT OF MATHEMATICS AND STATISTICS**  
**MATH 201 - QUIZ 3**

Name:

Student ID #:

**Question 1.** Evaluate the double integral  $\iint_R x e^{xy} dx dy$  where  $R : 1 \leq x \leq 2, 0 \leq y \leq 1$ .

**Question 2.** Find the volume of the solid under the paraboloid  $z = 3x^2 + y^2$  and above the region bounded by  $y = x$  and  $x = y^2 - y$ .

**Question 3.** Express the area of the triangle with vertices  $(0, 0)$ ,  $(1, 2)$ , and  $(2, 1)$  using double integrals. Do not evaluate any of the integrals.

**Your Solution.**