

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
**DEPARTMENT OF MATHEMATICS AND STATISTICS**  
**MATH 102 - QUIZ 1**

Name:

Student ID #:

**Question 1.** Find the average value of  $f(x) = x + |x^2 - 2x|$  over the interval  $[0, 3]$ .

**Question 2.** Find the derivative of

$$y = 2 \int_0^{e^{x^2}} f(t) dt + \int_{e^{x^2}}^{x^2} g(t) dt - \int_0^{x^2} g(t) dt$$

**Question 3.** Evaluate the definite integral  $\int_1^2 \frac{1}{2x+1} dx$ .

**Your Solution.**