

**King Fahd University of Petroleum and Minerals**  
**Department of Mathematics and Statistics**  
**Math 201 – Term 182 – Quiz 4**

Name:

Student ID #:

Section #: 13

**Question 1.** Find an equation of the tangent plane to surface

$$f(x, y) = x^2 + 2xy + y^2 - 2$$

at the point  $(1, 1, 2)$

**Question 2.** Find the point of intersection between the normal line to the ellipsoid

$$x^2 + y^2 + 2z^2 = 4$$

at the point  $(1, 1, 1)$  and the plane  $x + y - z = 8$ .