

Name: SOLUTIONS

Quiz #4 - October 7, 2008

1. Find an equation for the tangent plane to the surface $z = x^2 + xy^2$ at the point $(1, 2, 5)$.

$$f_x = 2x + y^2 \quad f_x(1, 2) = 6$$

$$f_y = (2xy) \quad f_y(1, 2) = 4$$

$$z - 5 = 6(x - 1) + 4(y - 2)$$

2 Let $z = x^2 \cos(y)$. Find the differential dz .

$$dz = 2x \cos y \, dx - x^2 \sin y \, dy$$