

"QUIZ" for Lecture 7

NAME: (print!) Andrew King Section: 23

E-MAIL SCANNED .pdf OF COMPLETED QUIZ to DrZcalc3@gmail.com (Attachment: q7FirstLast.pdf) ASAP BUT NO LATER THAN Sept. 28, 8:00pm

1. Compute the partial derivatives with respect to x and y .

$$z = \ln(x^2 + y^3)$$
$$\frac{df}{dx} = \frac{2x}{x^2 + y^3} \quad \frac{df}{dy} = \frac{3y^2}{x^2 + y^3}$$

2. Find an equation of the tangent plane to the given surface at the specified point.

$$z = x^2 + y^2 + 2, \quad (1, 1, 4)$$

$$f_x = 2x \quad f_x(1, 1) = 2 \quad z - 4 = 2(x - 1) + 2(y - 1)$$
$$f_y = 2y \quad f_y(1, 1) = 2 \quad = 2x - 2 + 2y - 2 + 4 = 2x + 2y$$

$$z = 2x + 2y$$