

"QUIZ" for Lecture 7

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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 .

$$z = \ln(x^2 + y^3) .$$

$$X: dz = \frac{2x}{x^2} = \left(\frac{2}{x} \right)$$

$$Y: dz = \frac{3y^2}{y^3} = \left(\frac{3}{y} \right)$$

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

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

$$f_x(x, y, z) = 2x$$

$$f_y(x, y, z) = 2y$$

$$f_z(x, y, z) = 0$$

$$f(1, 1, 4) = 2$$

$$f_x(1, 1, 4) = 2$$

$$f_z(1, 1, 4) = 0$$

$$2(x-1) + 2(y-1)$$

$$+ 0(z-4)$$

$$z = 2x - 2 + 2y - 2$$

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