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"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.

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

$\frac{\partial}{\partial x} z = \frac{2x}{x^2+y^3}$ $\frac{\partial z}{\partial y} = \frac{3y^2}{x^2+y^3}$

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

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

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

$\frac{d}{dx} f(x,y)\Big|_{x=1} = 2x = 2(1) = 2$ $(z-4) = 2(x-1)+(y-1)$

$\frac{d}{dy} f(x,y)\Big|_{x=1} = 2y = 2(1) = 2$