Math2210 Quiz 7 (Sections 12.5-12.8)   Summer, 2010   Dylan Zwick

Name _____ Date _____

<u>Instructions</u>: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

1. Find $\dfrac{\partial w}{\partial t}$ for $w = x^2 y$ given $x = st$, and $y = s - t$.

Answer: _____

2. Find the equation of the tangent plane to $z = \dfrac{x^2}{4} + \dfrac{y^2}{4}$ at $(2,2,2)$.

Answer : _____

3.   Express the number 42 as a sum of three positive numbers such that the product of these three numbers is a maximum.

Answer: _____

4.   Find all critical points of the function $f(x,y)=x^2+4y^2-4x$.

Answer : _____