Math2210 Quiz 7 (Sections 12.6-12.7)   Summer, 2012   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. *(15 points)* Find $\dfrac{\partial w}{\partial t}$ using the chain rule for $w=e^{xy+z}$ given $x=s+t$, $y=s-t$, and $z=t^2$. Express your answer in terms of s and t.

Answer: _____

2. *(10 points)* Find $\dfrac{dw}{dt}$ using the chain rule for $\ln\dfrac{x}{y}$ given $x=\tan t$, and
$y=\sec^2 t$. Express your answer in terms of t.

Answer : _____

3. *(15 points)* Find a point on the surface $z=2x^2+3y^2$ where the tangent plane
is parallel to the plane $8x-3y-z=0$.

Answer: _____