Your Name:_____ Signature:_____

TA Name:_____ Drill Time:_____

Quiz 4

Math 2574: Calculus III

Instructions: CLEARLY SHOW ALL YOUR WORK.

1. **[5 points]** Find the first partial derivatives of the function $h(x, y, z) = y^3 \sin(xyz)$.

2. **[5 points]** Assume w is a function of x, y, and z. Suppose further that each of x, y, z is a function of two variables, s and t.

   (a) Draw a labeled tree diagram showing the relationships among the variables.

   (b) Use this to write the Chain Rule formula for $\dfrac{\partial w}{\partial s}$.