

Calculus: Inclass Homework 8

May 8th, 2008

1. Let

$$f(x, y, z) = xy + z^2, \quad x = r^2, \quad y = 2rs, \quad z = s^2.$$

Use the chain rule to compute $\partial f/\partial r$ and $\partial f/\partial s$.

2. Let \mathcal{C} be the curve of intersection of the two surfaces $x^3 + 2xy + yz = 7$ and $3x^2 - yz = 1$. Find the parametric equations of the tangent line to \mathcal{C} at $P = (1, 2, 1)$.