Quiz 4 **Name:** _____

Math 241: Spring 2023 **Section:** _____

Problem 1. (5 points) Assume $x(t)$ and $y(t)$ are functions in t, and $f(x, y) = x^2 \sin y$. Write $\frac{d}{dt} f(x(t), y(t))$ in terms of $x(t)$, $y(t)$, $x'(t)$ and $y'(t)$.

Problem 2. (5 points) Assume $x = f(t)$ and $y = g(t, s)$. If $z = \sin x \cos y$, compute $\frac{\partial z}{\partial t}$.