

Full name: _____ GT ID: _____ Sec: _____

Quiz 4 Version A

You have 15 minutes to take the quiz. No phones, notes, or use aids of any kind is permitted.

1. (2 points) If a function $f(x, y)$ is defined and has continuous partial derivatives $\frac{\partial f}{\partial x}$ and $\frac{\partial f}{\partial y}$ at a point $(x, y) = (x_0, y_0)$, then f is continuous at (x_0, y_0) . [A]

☐ **TRUE**☐ **FALSE**

2. (8 points) [**Partial Derivatives**]

Find all the partial derivatives of each of the components of $f(s, t) = \langle x(s, t), y(s, t), z(s, t) \rangle$, and then give the total derivative Df for the function $f(s, t)$ below.

$$f(s, t) = \left\langle s \cos(2t), \frac{t^2}{s}, e^{st} \right\rangle$$