

Math 2263

Quiz 3

Name

Section

Score

(5 points) 1. Use implicit differentiation to find $\frac{\partial z}{\partial x}$ and $\frac{\partial z}{\partial y}$.

$$2x^2 + 4y^2 + 3z^2 = 1$$

(5 points) 2. Use differentials to estimate the amount of tin in a closed can with diameter 10 cm and 16 cm if the tin is 0.06 cm thick.

(5 points) 3. Explain why the function is differentiable at the given point.

$$f(x, y) = \frac{x}{x + y} \text{ at } (2, 3).$$