Math 1260 - Quiz 4

Key

1. (2 points) Let $z = x^2 \sin(xy) + y^2$. Compute $\frac{\partial z}{\partial x}$.

$$\frac{\partial z}{\partial x} = 2x\sin(xy) + x^2 y \cos(xy)$$

(3 points) If $f(x, y, z)$ is defined by the formula

$$f(x, y, z) = (a \quad b \quad c) \cdot \begin{pmatrix} x \\ y \\ z \end{pmatrix}$$

What is f_z?

$$f(x,y,z) = ax + by + cz$$

$$\boxed{f_z = c}$$

2. (5 points) Define: **open set** in $\mathbb{R}^2$.

See notes.