

14.3, number 7: Find $\frac{\partial f}{\partial x}$ and $\frac{\partial f}{\partial y}$ for $f(x, y) = \sqrt{x^2 + y^2}$.

Answer: We compute $\frac{\partial f}{\partial x} = \frac{2x}{2\sqrt{x^2 + y^2}}$ and $\frac{\partial f}{\partial y} = \frac{2y}{2\sqrt{x^2 + y^2}}$.