

W2-3-2 The total differential of a function with two variables 2

Take the function $y(x, z) = ax^2 + bz^2$. What is the partial derivative of this function, $y = y(x, z)$? Compute $\left(\frac{\partial y}{\partial x}\right)_z$.

The partial derivative $\left(\frac{\partial y}{\partial x}\right)_z = 2ax$.