$$f(x, z, a, b) = y = (4ax^{2} + a) + 3 + \sigma(z) + (\sigma(b)^{2})$$

$$\frac{\partial y}{\partial x} = 8ax$$

$$\frac{\partial y}{\partial z} = \sigma'(z)$$

$$\frac{\partial y}{\partial a} = 4x^{2} + 1$$