

## Math 2374 - Quiz 2

Name: \_\_\_\_\_

Section: \_\_\_\_\_

Consider the function of three variables  $f : \mathbb{R}^3 \rightarrow \mathbb{R}$  given by

$$f(x, y, z) = \det \begin{pmatrix} 1 & x & x^2 \\ 1 & y & y^2 \\ 1 & z & z^2 \end{pmatrix}.$$

1. (50 points) Write an explicit formula for  $f$  (expand the determinant).

2. (50 points) Compute  $\frac{\partial f}{\partial x}$ .