

MATH 261 Quiz 8

Name: .

Student number:

Show all work. 5 points each.

1) Use the chain rule to find $\frac{\partial z}{\partial v}$ where $z = x^2 + y^2$, $x = uv^2 + v^2$ and $y = u + ve^v$.

2) Find the gradient and the directional derivative in the direction \mathbf{u} for $f(x, y) = 5xy^2 - 4x^3y$ at the point $P(1, 2)$ and $\mathbf{u} = \langle \frac{5}{13}, \frac{4}{13} \rangle$