Define the following as limits:

(1) The derivative of f(z).

$$f'(z) =$$

(2) The partial derivative $\frac{\partial u}{\partial x}(x,y)$

$$\frac{\partial u}{\partial x}(x,y) =$$

(3) The partial derivative $\frac{\partial u}{\partial y}(x,y)$

$$\frac{\partial u}{\partial y}(x,y) =$$