

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$\frac{d}{dx} \log(x) = \frac{1}{x} \quad \log(1) = 0$$

$$\frac{d \log(1)}{dx} = 1$$

$$1 = \lim_{h \rightarrow 0} \frac{\log(1+h)}{h}$$

$$z = x + y$$

$$w = x$$

$$x = w$$

$$y = z - w$$

$$\begin{vmatrix} \partial x / \partial w & \partial x / \partial z \\ \partial y / \partial w & \partial y / \partial z \end{vmatrix} = \begin{vmatrix} 1 & 0 \\ -1 & 1 \end{vmatrix}$$