

Contents

0.1	Differentiating e^x	1
0.1.1	Intro	1

0.1 Differentiating e^x

0.1.1 Intro

We have $e^x = \sum_{i=0}^{\infty} \frac{x^i}{i!}$

$$\frac{\delta}{\delta x} e^x = \frac{\delta}{\delta x} \sum_{i=0}^{\infty} \frac{x^i}{i!}$$

$$\frac{\delta}{\delta x} e^x = \sum_{i=0}^{\infty} \frac{\delta}{\delta x} \frac{x^i}{i!}$$

$$\frac{\delta}{\delta x} e^x = \sum_{i=1}^{\infty} \frac{\delta}{\delta x} \frac{x^i}{i!}$$

$$\frac{\delta}{\delta x} e^x = \sum_{i=1}^{\infty} \frac{x^{i-1}}{(i-1)!}$$

$$\frac{\delta}{\delta x} e^x = \sum_{i=0}^{\infty} \frac{x^i}{i!}$$

$$\frac{\delta}{\delta x} e^x = e^x$$