9B Differentiating Exponentials

e^x

$\ln(x)$

a^x

1. Find $\frac{dy}{dx}$ given that:

$$y = e^{3x} + 2^{3x}$$

2. Find $\dfrac{dy}{dx}$ given that:

$$y = \ln(x^3) + \ln 7x$$

3. Find $\dfrac{dy}{dx}$ given that:

$$y = \frac{2 - 3e^{7x}}{4e^{3x}}$$