Integral Indefinida - Función exponencial

Bit Planet

Solución

$$\int \frac{e^{4x}}{e^{x}}\,dx$$

$$\int e^{x}\,dx = e^{x} + C$$

$$\int e^{4x}\left(e^{-x}\right)dx$$

Cambio de variable

$$u = 3x$$

$$du = 3\,dx$$

$$dx = \frac{du}{3}$$

$$= \int e^{3x}\,dx = e^{3x} + C$$

$$= \int e^{u}\,\frac{du}{3} = \frac{1}{3}\int e^{u}\,du$$

$$= \frac{1}{3}\,e^{3x} = \frac{e^{3x}}{3} + C$$