2.2 EKSPONENTTI- JA TRIGONOMETRISTEN FUNKTIOIDEN INTEGROINTI

E1 $\int e^{-\frac{1}{3}x}\,dx$

$= -3 \int (-\frac{1}{3}) e^{-\frac{1}{3}x}\,dx$

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

$s(x) = -\frac{1}{3}x$

$s'(x) = -\frac{1}{3}$ sisäfunktion derivaatta

korjauskerroin

$-3 \cdot (-\frac{1}{3}) = 1$

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

E2 $\int 2\sin 5x\,dx$

$= 2 \cdot \frac{1}{5} \int 5 \sin 5x\,dx$

$= -\frac{2}{5}\cos 5x + C$

$s(x) = 5x$

$s'(x) = 5$

$\frac{1}{5} \cdot 5 = 1$

$$\int \sin x\,dx = -\cos x + C$$

$$\int \cos x\,dx = \sin x + C$$