Integrationsexempel

$$\int \ln(1+x)\,dx = \int 1 \cdot \ln(1+x)\,dx = x \cdot \ln(1+x) - \int x \cdot \frac{1}{1+x}\,dx = x\ln(1+x) - \int \frac{x}{1+x}\,dx$$

$$= |\text{Partialbråksuppdelning}| = x\ln(1+x) - \int \left(1 - \frac{1}{1+x}\right)dx$$

$$= x\ln(1+x) - (x - \ln(1+x) + C) = x\ln(1+x) - x + \ln(1+x) - C$$

$$= (x+1)\ln(1+x) - x - C$$