

Örnek: $y' = x + y$ qoz.

$$y' - y = x \rightarrow Q(x) = x dx$$
$$P(x) = -1$$

$$\lambda = e^{\int P(x) dx} = e^{-x}$$

$$y = \lambda^{-1} \int \lambda Q dx \Rightarrow y = e^x \int \underbrace{e^{-x}}_u \cdot \underbrace{x dx}_v$$

İsmi Integral

$$u v - \int v du$$

$$du = dx$$

$$v = -e^{-x}$$

$$= e^x (x \cdot (-e^{-x}) - \int -e^{-x} dx)$$

$$y = -x + e^x \int e^{-x} dx$$

$$y = -x + e^x (-e^{-x} + c)$$