

$$\int_a^b g'(x) \cdot h(x) dx = [g(x) h(x)]_a^b - \int_a^b g(x) \cdot h'(x) dx$$

$$\begin{aligned} \text{c) } \int_0^1 e^{2x} \cdot x dx &= \left[\frac{1}{2} e^{2x} \cdot x \right]_0^1 - \int_0^1 \frac{1}{2} e^{2x} \cdot 1 dx \\ &= \left[\frac{1}{2} e^{2x} \cdot x \right]_0^1 - \left[\frac{1}{4} e^{2x} \right]_0^1 \\ &= \left[\frac{1}{2} e^{2x} \left(x - \frac{1}{2} \right) \right]_0^1 \\ &= 2,09 \end{aligned}$$