

$$1) \int e^x dx = e^x$$

$$2) \int e^{2x+1} dx = \int e^{2x+1} \cdot 2 \cdot \frac{1}{2} dx$$

$$= \frac{1}{2} \int e^{2x+1} \cdot \underbrace{(2x+1)'} dx$$

$$= \frac{1}{2} \cdot e^{2x+1} + C$$

$$3) \int e^{x^3} \cdot x^2 \cdot dx = \int e^{x^3} \cdot 3x^2 \cdot \frac{1}{3} dx$$

$$= \frac{1}{3} \int e^{x^3} \cdot \underbrace{(x^3)'} \cdot dx = \frac{1}{3} e^{x^3} + C$$

$$4) \int \frac{1}{\sqrt{x} \cdot e^{\sqrt{x}}} dx = \int \frac{1}{e^{\sqrt{x}}} \cdot \frac{1}{\sqrt{x}} dx$$

$$= \int e^{-\sqrt{x}} \cdot \left(-\frac{1}{2\sqrt{x}} \right) \cdot (-2) dx$$

$$= -2 \int e^{-\sqrt{x}} \cdot (-\sqrt{x})' \cdot dx$$

$$(-\sqrt{x})' = -(\sqrt{x})' = -\frac{1}{2\sqrt{x}}$$

formuläre

$$= -2 \cdot e^{-\sqrt{x}} + C$$

$$= -2 \cdot \frac{1}{e^{\sqrt{x}}} + C = \frac{-2}{e^{\sqrt{x}}} + C$$