Mathe II
Hausaufgabe 01
Jan Meyer
664237

Problem 1 *Stammfunktionen*

a)

$$\int x^2 \exp(x^3) dx = \frac{1}{3} \exp(x^3) + C$$

b)

$$\int \frac{\ln(x^2)}{x^2} dx = -\frac{2\ln(x) + 2}{x} + C$$

c)

$$\int \frac{1}{2}(\sin(2x) + 1) dx = \frac{1}{4}(-\cos(2x) + 2x) + C$$

Problem 2 *Integrale und Stammfuntionen*

a)

$$\int \frac{2x^2 - 3x + 4}{x} dx = x^2 - 3x + 4\ln|x| + C$$

b)

$$\int \frac{2\cos(x)}{1 + \sin(x)} dx = 2\ln|1 + \sin(x)| + C$$

c)

$$\int \exp(2x)\sqrt{1 + \exp(2x)} dx = \frac{1}{3}(1 + \exp(2x))^{\frac{3}{2}} + C$$