

Ex 40

$$\int_{-1}^1 (x+1)^3 dx = 4$$

$$\int_1^2 \left(x^2 - 5 - \frac{4}{x^2} \right) dx = -\frac{14}{3} \simeq -4,6666\dots$$

Ex 41

$$\int_0^1 \frac{x}{x^2+1} dx = \frac{\ln(2)}{2} \simeq 0,347$$

$$\int_1^2 \frac{e^{1/x}}{e^x+1} dx = -\ln(e+1) + \ln(2) + e - 1 \simeq 1,098$$

Ex 43

$$\int_0^1 \frac{e^x}{e^x+1} dx = \ln(e+1) - \ln(2) \simeq 0,620$$

$$\int_0^{\ln(2)} \frac{e^x - e^{-x}}{e^x + e^{-x}} dx = \ln\left(\frac{5}{4}\right) \simeq 0,223$$

Ex 45

$$\int_2^3 \frac{dx}{\sqrt{x+1}} = \int_2^3 \frac{1}{\sqrt{x+1}} dx = 4 - 2\sqrt{3} \simeq 0,536$$

$$\int_3^4 \frac{x+1}{(x-2)^2} dx = \ln(2) + \frac{3}{2} \simeq 2,193$$