

Example 1: $\int_{-1}^2 x(x^2 + 1)^3 dx$

Example 2: $\int_0^4 \frac{1}{\sqrt{2x+1}} dx$

Example 3: $\int_0^\pi \frac{\sin x}{\cos^2 x} dx$

Example 4: $\int_0^1 e^{-2x} dx$

Example 5: $\int_0^1 \frac{e^{2x}}{1+e^{2x}} dx$