

Evaluate the following integrals.

1. $\int_0^{\pi/2} \cos(x) \, dx$

2. $\int_1^4 x^3 - 2x \, dx$

3. $\int_{-1}^2 e^x \, dx$

4. $\int_1^3 3x^2 \ln(x) + x^3 \left(\frac{1}{x} \right) \, dx$

5. $\int_0^5 \sin(x^2) \, dx$