

1. $\int x^2 e^{-x} dx$

2. $\int x \sin(2x) dx$

3. $\int \frac{3x + 2}{x^2 + x} dx$

4. $\int \frac{\ln x}{x} dx$

5. $\int \frac{x^2 - 4x + 1}{(x^2 + 1)(x - 1)^2} dx$