Caculus Review

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

$$2. \int \frac{\ln x}{x} dx$$

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

$$\mathbf{4.} \int e^x \cos x dx$$

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