Evaluate the following integrals, and then use Maple to verify your answer.

1. $\int_0^3 6x \ dx$

2. $\int_0^5 4x^3 + x - 3 \ dx$

3. $\int_0^\pi \sin(x) \ dx$

4. $\int_1^3 e^x \ dx$

5. $\int_0^{\pi/4} \cos(2x) \ dx$

6. $\int_0^1 e^{-x^2} \ dx$

Recap for Today

- The area function A_f is an antiderivative of f

- If we can find a formula for the antiderivative of f, then evaluating the integral $\displaystyle\int_a^b f(x)\ dx$ is easy.

- If we can't find an antiderivative for f, then life is harder.