

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

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

To *verify* using Maple, follow the directions at the beginning of the Maple cheat sheet, then enter the following:

```
Int(6*x,x=0..3) [return]  
value(%) [return]
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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 $\int_a^b f(x) dx$ is easy.
- If we can't find an antiderivative for f , then we are up a creek. Paddles will be provided shortly.