

Evaluate the following integrals, and check your answer by differentiation. Then use Maple to *verify* your answers by either graphing the integrand and the antiderivative on the same set of axes or by using Maple's **Int()** command.

1. $\int 2x \cos(x^2) dx$

2. $\int x^2 \sin(x^3) dx$

3. $\int 7e^{4x} dx$

4. $\int \sin(x) (\cos(x))^2 dx$

5. $\int \frac{\ln(x)}{x} dx$

6. $\int \sec(x) \tan(x) dx$

7. $\int \sec(x) \tan(x) e^{\sec(x)} dx$

8. $\int \frac{\sin(\sqrt{x})}{\sqrt{x}} dx$

9. $\int \tan(x) (\sec(x))^2 dx$

10. $\int \frac{x^5 + x - 2}{x^6 + 3x^2 - 12x + 3} dx$

11. $\int \frac{e^x}{1 + e^{2x}} dx$

12. $\int \frac{x}{1 + x^2} dx$