

WORKSHEET: INTEGRATION

Calculate the following integrals.

1. $\int x^3 \cos(x^4) dx$

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

3. $\int \theta \sin(\theta^2) d\theta$

4. $\int (x + 15)^{-2} dx$

5. $\int x(x + 1)^9 dx$

6. $\int \frac{dt}{\sqrt{t + 12}}$

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

8. $\int_0^1 (3t - 1)^2 dt$

9. $\int_0^2 \frac{dx}{\sqrt{2x + 5}}$

10. $\int_1^e \frac{\ln x}{x} dx$

11. $\int_0^1 \theta \tan(\theta^2) d\theta$

12. $\int_0^{\pi/2} (\sin x)^n \cos x dx$, where $n \geq 1$ is a fixed integer.