

# Integration Practice

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

2.  $\int \cos^3 \theta d\theta$

3.  $\int \frac{1}{\sqrt{x^2+4x+8}} dx$

4.  $\int \frac{8x^3}{2x^2-x-1} dx$

5.  $\int \frac{1}{(x+3)(\sqrt{x+4}-2)} dx$

6.  $\int 2x \ln(x+5) dx$

7.  $\int \sec(x) \tan^3(x) dx$

8.  $\int \frac{\sin(3t) \cos(3t)}{\cos^2(3t)-3 \cos(3t)+2} dt$

9.  $\int_1^2 \frac{x^3}{x^2+x+1/2} dx$

10.  $\int x^3 \sqrt{9+4x^2} dx$

11.  $\int_1^3 \frac{1}{x^2+x^3} dx$

12.  $\int_0^{\pi/6} (\sin(2x))(\cos(2x)) dx$

$$13. \int_2^3 \frac{8x^3}{2x^2-x-1} dx$$

$$14. \int \frac{\sin x}{\cos^2 x - 5 \cos x + 6} dx$$

$$15. \int \frac{t^3}{\sqrt{t^2+4}} dt$$

$$16. \int_{\pi/4}^{\pi/3} \frac{\ln(\tan \theta)}{\sin \theta \cos \theta} d\theta$$

$$17. \int x^3 \sin(x^2 + 1) dx$$

$$18. \int \ln(1 + \sqrt{x}) dx$$

$$19. \int \frac{\sqrt{y-4}}{y} dy$$

$$20. \int \frac{1}{x(\sqrt{x+1}+2)} dx$$

$$21. \int_0^1 \frac{x^2}{\sqrt{4-x^2}} dx$$

$$22. \int \frac{x}{\sqrt{6x-x^2}} dx$$