

The first 30 integrals do not require the use of either trigonometric substitution or partial fractions.

1. $\int e^{5-4x} dx$

2. $\int \sin(\pi z) dz$

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

4. $\int xe^{-2x} dx$

5. $\int t^3 \ln t dt$

6. $\int \frac{4x}{\sqrt{9-4x^2}} dx$

7. $\int \frac{dx}{\sqrt{9-4x^2}}$

8. $\int \frac{e^t - e^{-t}}{e^t + e^{-t}} dt$

9. $\int \frac{\cos \alpha}{1 + \sin^2 \alpha} d\alpha$

10. $\int \frac{x}{1+x^4} dx$

11. $\int x \tan^{-1} x dx$

12. $\int \sin^3 \varphi d\varphi$

13. $\int \sec^4 t dt$

14. $\int \frac{\tan(\sqrt{z})}{\sqrt{z}} dz$

15. $\int 5^{2x} dx$

16. $\int e^{3x} \sec(e^{3x}) dx$

$$17. \int \frac{1}{1+\sqrt{x}} dx$$

$$18. \int y(2-y)^{\frac{3}{2}} dy$$

$$19. \int e^{3x} \sin(2x) dx$$

$$20. \int \frac{t^2 + 4t + 3}{t+1} dt$$

$$21. \int x^2 e^{5x} dx$$

$$22. \int \tan^2(3\theta) d\theta$$

$$23. \int \frac{d\alpha}{\sec(2\alpha)}$$

$$24. \int (x-1)e^{-(x-1)^2} dx$$

$$25. \int \tan^2 \theta \sec^2 \theta d\theta$$

$$26. \int (w^2 + 2w + 1)\sqrt{w+1} dw$$

$$27. \int \ln 7 dx$$

$$28. \int \sec(2\theta) d\theta$$

$$29. \int \ln(5x) dx$$

$$30. \int \tan^5 \theta \sec^3 \theta d\theta$$

The next 20 integrals **may** require either trigonometric substitution or partial fractions.

$$31. \int \frac{x+3}{x^2+2x+5} dx$$

$$32. \int \frac{t^3}{t^2+1} dt$$

$$33. \int \sqrt{\frac{1+x}{1-x}} dx$$

$$34. \int \frac{dz}{z+\sqrt{z}}$$