Integrals - Substitutions

1. $\displaystyle\int x^3\sqrt{x^4+3}\,dx$

2. $\displaystyle\int x^2\cos x^3\,dx$

3. $\displaystyle\int \frac{\sin x}{\cos^2 x}\,dx$

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

5. $\displaystyle\int \frac{x}{x^2+4}\,dx$

6. $\displaystyle\int \frac{lnx}{x}\,dx$

7. $\displaystyle\int \frac{x^2}{x^6+1}\,dx$

8. $\displaystyle\int x\sec^2 x^2\,dx$

9. $\displaystyle\int (x+3)^3\,dx$

10. $\displaystyle\int \frac{x+1}{(x^2+2x)^2}\,dx$

11. $\displaystyle\int \sin^2 x\cos x\,dx$

12. $\displaystyle\int \sqrt{4x-1}\,dx$

13. $\displaystyle\int \sec^2 x\tan x\,dx$

14. $\displaystyle\int x\sqrt{x+2}\,dx$

15. $\displaystyle\int (3x+2)^9\,dx$

16. $\displaystyle\int \frac{\cos\sqrt{x}}{\sqrt{x}}\,dx$

17. $\displaystyle\int x(x+2)^5\,dx$

18. $\displaystyle\int \cos^3 x\sin x\,dx$

19. $\displaystyle\int \tan(3x-2)\,dx$

20. $\displaystyle\int \frac{x}{\sqrt{x^2+4}}\,dx$

21. $\displaystyle\int \frac{\sec x \tan x}{1 + \sec^2 x}\, dx$

22. $\displaystyle\int \frac{1}{(2x+5)^3}\, dx$

23. $\displaystyle\int e^x \sin(e^x)\, dx$

24. $\displaystyle\int \sec 2\theta \tan 2\theta\, d\theta$

25. $\displaystyle\int \sqrt{x} \sin\left(1 + x^{3/2}\right) dx$

26. $\displaystyle\int (1 + \tan\theta)^5 \sec^2\theta\, d\theta$

27. $\displaystyle\int \frac{\tan^{-1} x}{1 + x^2}\, dx$

28. $\displaystyle\int e^{\cos t} \sin t\, dt$

29. $\displaystyle\int \frac{\sin(\ln x)}{x}\, dx$

30. $\displaystyle\int \frac{e^x}{e^x + 1}\, dx$

31. $\displaystyle\int \frac{\cos(\pi/x)}{x^2}\, dx$

32. $\displaystyle\int \frac{\sin x}{1 + \cos^2 x}\, dx$

33. $\displaystyle\int \sin t \sec^2(\cos t)\, dt$

34. $\displaystyle\int \frac{x}{1 + x^4}\, dx$

35. $\displaystyle\int \frac{x^2}{\sqrt{1 - x}}\, dx$

36. $\displaystyle\int_0^7 \sqrt{4 + 3x}\, dx$

37. $\displaystyle\int_0^{\sqrt{\pi}} x \cos(x^2)\, dx$

38. $\displaystyle\int_0^1 x e^{-x^2}\, dx$

39. $\displaystyle\int_0^4 \frac{x}{1 + 2x}\, dx$

40. $\displaystyle\int_0^{1/2} \frac{\sin^{-1} x}{\sqrt{1 - x^2}}\, dx$