Practice Integrals for MA261

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

2. $\int (4x-5)^3 dx$

3. $\int_0^{\pi/4} \cos 2w\, dw$

4. $\int \dfrac{1}{t^2+1} dt$

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

6. $\int \dfrac{1}{\sqrt{w}(1-2\sqrt{w})} dw$

7. $\int \sec 3u \tan 3u\, du$

8. $\int_0^{\pi} \sin^2 t \cos t\, dt$

9. $\int \dfrac{1}{4x^2+1} dx$

10. $\int \dfrac{e^x}{1+e^x} dx$

11. $\int_1^e \dfrac{1-\ln x}{x} dx$

12. $\int \dfrac{3x-4}{x} dx$

13. $\int e^{4x} dx$

14. $\int \dfrac{2t-1}{t^2+1} dt$

15. $\int \dfrac{4t-2}{t^2-t+2} dt$

16. $\int \dfrac{2e^x}{1+e^{2x}} dx$

17. $\int \dfrac{3x}{4-x} dx$

18. $\int \dfrac{u^2}{1-u} du$

19. $\int t + \dfrac{1}{(3t-1)^4} dt$

20. $\int \dfrac{x+1}{\sqrt{x^2+2x-4}} dx$

21. $\int x\left(1+\dfrac{1}{x}\right)^3 dx$

22. $\int \dfrac{1}{1+3x} - \dfrac{1}{1-3x} dx$

23. $\int \tan 4u\, du$

24. $\int \dfrac{\sin(2/t)}{t^2} dt$

25. $\int (1+2x^2)^2 dx$

26. $\int \dfrac{t^2-3}{-t^3+9t+1} dt$

27. $\int \sqrt[3]{-2x+5}\, dx$

28. $\int \dfrac{3}{(6u-4)^2}\, du$

29. $\int x^3 \sqrt{4-2x^2}\, dx$

30. $\int \sin(2\theta) e^{\cos 2\theta}\, d\theta$

31. $\int \dfrac{1}{4+9x^2}\, dx$

32. $\int_0^1 (1+e^x)^2\, dx$

33. $\int \dfrac{dx}{1-\sin^2 x}$

34. $\int_0^1 x^2 (1-x^2)\, dx$

35. $\int \dfrac{(1+e^x)^2}{e^x}\, dx$

36. $\int \dfrac{\sec^2 \theta}{4+\tan^2 \theta}\, d\theta$

37. $\int \dfrac{\sin(\ln x)}{4x}\, dx$

38. $\int_0^{3/2} 3x \cos(2\pi x)\, dx$

39. $\int \dfrac{(\ln z)^5}{z}\, dz$

40. $\int_{-1}^0 \dfrac{x+2}{x^2+4x-1}\, dx$

41. $\int \dfrac{1}{x(1+\ln x)}\, dx$

42. $\int \dfrac{1}{1+x^{1/3}}\, dx$

43. $\int \dfrac{1}{x^2} \sin\left(\dfrac{1}{x}\right) dx$

44. $\int_1^2 \dfrac{x^2+2x+3}{x}\, dx$

45. $\int_{-3}^2 (u+|u|)\, du$

46. $\int_0^3 |x-2|\, dx$

47. $\int e^x \sqrt{e^x}\, dx$

48. $\int \cos^3(5x) \sin(5x)\, dx$

49. $\int_0^\pi (\sqrt{x}-4\sin 3x)\, dx$

50. $\int_{-3}^0 \dfrac{x}{\sqrt{1-x}}\, dx$

51. $\int_0^3 |x^2-3x+2|\, dx$

52. $\int \sqrt{1+\sqrt{x}}\, dx$