1. $\int \frac{\mathrm{d}x}{x^2+2x}$ $\boxed{\frac{1}{2}\ln\left|\frac{x}{x+2}\right|+C}$

2. $\int \frac{\mathrm{d}x}{x^2-1}$ $\boxed{\frac{1}{2}\ln\left|\frac{x-1}{x+1}\right|+C}$

3. $\int \frac{\mathrm{d}x}{x^3+x}$ $\boxed{\ln|x|-\frac{1}{2}\ln|1+x^2|+C}$

4. $\int \frac{\mathrm{d}x}{(x-1)(x-2)(x-3)}$ $\boxed{\frac{1}{2}\ln|x-1|-\ln|x-2|+\frac{1}{2}\ln|x-3|+C}$

5. $\int \frac{\mathrm{d}x}{x(x+1)^2}$ $\boxed{\ln|x|-\ln|1+x|+\frac{1}{1+x}+C}$

6. $\int \frac{2x^2+41x-91}{(x-1)(x+3)(x-4)}\mathrm{d}x$ $\boxed{4\ln|x-1|-7\ln|x+3|+5\ln|x-4|+C}$

7. $\int \frac{2\,\mathrm{d}x}{x^2+2x+5}$ $\boxed{\operatorname{arctg}\frac{x+1}{2}+C}$

8. $\int \frac{\mathrm{d}x}{3x^2+5}$ $\boxed{\frac{1}{\sqrt{15}}\operatorname{arctg}\frac{\sqrt{3}x}{\sqrt{5}}+C}$

9. $\int \frac{\mathrm{d}x}{x^3+1}$ $\boxed{\frac{1}{3}\ln|x+1|-\frac{1}{6}\ln(x^2-x+1)+\frac{\sqrt{3}}{3}\operatorname{arctg}\frac{2x-1}{3}+C}$

10. $\int \frac{\mathrm{d}x}{x^3+x^2+x}$ $\boxed{\ln|x|-\frac{1}{2}\ln|x^2+x+1|-\frac{1}{\sqrt{3}}\operatorname{arctg}\frac{2x+1}{\sqrt{3}}+C}$

11. $\int \frac{x^2}{x^2-6x+10}\mathrm{d}x$ $\boxed{x+3\ln|x^2-6x+10|+8\operatorname{arctg}(x-3)+C}$

12. $\int \frac{2x-3}{(x^2-3x+2)^2}\mathrm{d}x$ $\boxed{-\frac{1}{x^2-3x+2}+C}$

13. $\int \frac{9x-14}{9x^2-24x+16}\mathrm{d}x$ $\boxed{\ln|3x-4|+\frac{2}{3}\frac{1}{3x-4}+C}$

14. $\int \frac{\mathrm{d}x}{2x^2+5x-12}$ $\boxed{\frac{1}{11}\left(\ln|2x-3|-\ln|x+4|\right)+C}$

15. $\int \frac{3x^2+32x-120}{(x-2)(x+2)(x-5)}\mathrm{d}x$ $\boxed{\frac{11}{3}\ln|x-2|-\frac{43}{7}\ln|x+2|+\frac{125}{21}\ln|x-5|+C}$

16. $\int \frac{5x^3-15x^2+15x-3}{x^3-8x^2+17x-10}\mathrm{d}x$ $\boxed{5x+\frac{1}{2}\ln|x-1|-\frac{7}{3}\ln|x-2|+\frac{161}{6}\ln|x-5|+C}$

17. $\int \frac{5x^3+9x^2-22x-8}{x^3-4x}\mathrm{d}x$ $\boxed{5x+2\ln|x|+3\ln|x-2|+4\ln|x+2|+C}$

18. $\int \frac{x^3+x+1}{(x^2+1)^2}\mathrm{d}x$ $\boxed{\frac{1}{2}\ln(x^2+1)-\frac{1}{1+x^2}+C}$

19. $\int \frac{2x^3-7x^2+12x-10}{x^4-4x^3+8x^2-8x+12}\mathrm{d}x$ $\boxed{\frac{1}{2}\ln(x^2+2)-\frac{\sqrt{2}}{2}\operatorname{arctg}\frac{x}{\sqrt{2}}+\frac{1}{2}\ln|x^2-4x+6|+C}$

20. $\int \frac{9x^4+3x^3-23x^2+x}{9x^3-6x^2-5x+2}\,dx$ $\boxed{\frac{x^2}{2}+x-\ln|x-1|+\frac{1}{3}\ln|3x-1|-\frac{2}{3}\ln|3x+2|+C}$

21. $\int_1^2 (x^2-3x+2)\,\mathrm{d}x$ $\boxed{-\frac{1}{6}}$

22. $\int_0^3 |1-3x|\mathrm{d}x$ $\boxed{\frac{65}{6}}$

23. $\int_{-4}^{-2} \frac{1}{x}\mathrm{d}x$ $\boxed{-\ln 2}$

24. $\int_0^1 \frac{\mathrm{d}x}{1+x^2}$ $\boxed{\frac{\pi}{4}}$

25. $\int_0^2 \frac{x}{x^2+3x+2}\mathrm{d}x$ — $\ln\frac{4}{3}$

26. $\int_0^{\pi} \cos x\,\mathrm{d}x$ — 0

27. $\int_0^{\pi} |\cos x|\,\mathrm{d}x$ — 2

28. $\int_0^{\pi} \sin^3 x\,\mathrm{d}x$ — $\frac{4}{3}$

29. $\int_3^7 \frac{x}{x^2-4}\,dx$ — $\ln 3$

30. $\int_0^{\frac{\pi}{2}} \cos x \cdot \sin^2 x\,dx$ — $\frac{1}{3}$

31. $\int_0^1 \frac{\sqrt{x}}{1+\sqrt{x}}\,dx$ — $\ln 4 - 1$

32. $\int_{-1}^1 \frac{\mathrm{d}x}{(1+x^2)^2}$ — $\frac{\pi+1}{2}$

33. $\int_0^{\sqrt{2}} \sqrt{4-x^2}\,dx$ — $1+\frac{\pi}{2}$

34. $\int_0^{\ln 5} \frac{e^x\sqrt{e^x-1}}{e^x+3}\,dx$ — $4-\pi$

35. $\int_1^2 \frac{\mathrm{d}x}{\sqrt{3+2x-x^2}}$ — $\frac{\pi}{6}$

36. $\int_0^{\frac{\pi}{2}} \frac{\sin\varphi}{6-5\cos\varphi+\cos^2\varphi}\mathrm{d}\varphi$ — $\ln\frac{4}{3}$

37. $\int_0^1 xe^{-x}\mathrm{d}x$ — $\frac{e-2}{e}$

38. $\int_1^e \ln x\,dx$ — 1

39. $\int_0^{\frac{\pi}{2}} x\sin x\,dx$ — 1

40. $\int_1^2 x\ln x\,dx$ — $2\ln 2 - \frac{3}{4}$

41. $\int_0^1 x^3e^{2x}\mathrm{d}x$ — $\frac{e^2+3}{8}$

42. $\int_0^{\frac{\pi}{2}} e^{2x}\sin x\,\mathrm{d}x$ — $\frac{2}{5}e^{\pi}+\frac{1}{5}$

43. $\int_{\frac{\pi}{3}}^{\frac{\pi}{4}} x\sin^{-2}x\,dx$ — $\frac{\pi}{3}-\frac{\sqrt{3}}{3}\pi+\frac{1}{2}\ln 2$

44. $\int_{-1}^1 \arccos x\,\mathrm{d}x$ — π

45. $\int_0^{\sqrt{3}} x\,\mathrm{arctg}\,x\,\mathrm{d}x$ — $\frac{2}{3}\pi-\frac{\sqrt{3}}{2}$

46. $\int_0^{\ln 2} x\cosh x\,\mathrm{d}x$ — $\frac{1}{4}(3\ln 2-1)$

47. $I_n = \int_0^{\frac{\pi}{2}} \sin^n x\,\mathrm{d}x$ — $I_0=\frac{\pi}{2},\ I_1=1,\ I_n=\frac{n-1}{n}I_{n-2}, n\geq 2$