

1. $\int u^n dx = \frac{u^{n+1}}{a(n+1)} \quad (n \neq -1), \quad \int \frac{dx}{u} = \frac{\ln|u|}{a} \quad \text{ただし 1-17 は } u = ax + b.$
2. $\int x u^n dx = \frac{u^{n+2}}{a^2(n+2)} - \frac{b u^{n+1}}{a^2(n+1)}, \quad \int \frac{x dx}{u} = \frac{x}{a} - \frac{b \ln|u|}{a^2}, \quad \int \frac{x dx}{u^2} = \frac{b}{a^2 u} + \frac{\ln|u|}{a^2}, \quad (\text{係数符号がプラス})$
3. $\int \frac{x^2 dx}{u} = \frac{1}{a^3} \left(\frac{u^2}{2} - 2bu + b^2 \ln|u| \right) \quad 4. \int \frac{x^2 dx}{u^2} = \frac{1}{a^3} \left(u - 2b \ln|u| - \frac{b^2}{u} \right)$
5. $\int \frac{x^2 dx}{u^3} = \frac{1}{a^3} \left(\ln|u| + \frac{2b}{u} - \frac{b^2}{2u^2} \right)$
6. $\int \frac{dx}{x u} = \frac{1}{b} \ln \left| \frac{x}{u} \right| \quad 7. \int \frac{dx}{x^2 u} = -\frac{1}{bx} + \frac{a}{b^2} \ln \left| \frac{x}{u} \right| \quad 8. \int \frac{dx}{x u^2} = \frac{1}{bu} - \frac{1}{b^2} \ln \left| \frac{x}{u} \right|$
9. $\int \frac{dx}{x^2 u^2} = -\frac{b+2ax}{b^2 x u} + \frac{2a}{b^3} \ln \left| \frac{x}{u} \right| \quad 10. \int \sqrt{u} dx = \frac{2}{3a} u^{3/2} \quad 11. \int x \sqrt{u} dx = \frac{2(3a-2b)}{15a^2} u^{3/2}$
12. $\int x^2 \sqrt{u} dx = \frac{2(15a^2 x^2 - 12abx + 8b^2)}{105a^3} u^{3/2}$
13. $\int \frac{\sqrt{u}}{x} dx = 2\sqrt{u} + b \int \frac{dx}{x \sqrt{u}} \quad 14. \int \frac{x}{\sqrt{u}} dx = \frac{2(ax-2b)}{3a^2} \sqrt{u} \quad 15. \int \frac{x^2}{\sqrt{u}} dx = \frac{2(3a^2 x^2 - 4abx + 8b^2)}{15a^3} \sqrt{u}$
16. $\int \frac{dx}{x \sqrt{u}} = \frac{1}{\sqrt{b}} \ln \left| \frac{\sqrt{u}-\sqrt{b}}{\sqrt{u}+\sqrt{b}} \right| \quad (\text{if } b > 0), = \frac{2}{\sqrt{-b}} \tan^{-1} \frac{\sqrt{u}}{\sqrt{-b}} \quad (\text{if } b < 0) \quad 17. \int \frac{\sqrt{u}}{x^2} dx = -\frac{\sqrt{u}}{x} + \frac{a}{2} \int \frac{dx}{x \sqrt{u}}$
18. $\int \frac{dx}{(ax+b)(cx+d)} = \frac{1}{bc-ad} \ln \left| \frac{cx+d}{ax+b} \right| \quad 19. \int \frac{x dx}{(ax+b)(cx+d)} = \frac{1}{bc-ad} \left(\frac{b}{a} \ln|ax+b| - \frac{d}{c} \ln|cx+d| \right)$
20. $\int \sqrt{x^2 \pm a^2} dx = \frac{x}{2} \sqrt{x^2 \pm a^2} \pm \frac{a^2}{2} \ln|x + \sqrt{x^2 \pm a^2}| \quad 21. \int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln|x + \sqrt{x^2 \pm a^2}|$
22. $\int \frac{\sqrt{x^2+a^2}}{x} dx = \sqrt{x^2+a^2} - a \ln \left(\frac{a+\sqrt{x^2+a^2}}{x} \right) \quad 23. \int \frac{\sqrt{x^2-a^2}}{x} dx = \sqrt{x^2-a^2} - a \sec^{-1} \frac{x}{a}$
24. $\int \frac{x^2 dx}{\sqrt{x^2 \pm a^2}} = \frac{x}{2} \sqrt{x^2 \pm a^2} \mp \frac{a^2}{2} \ln|x + \sqrt{x^2 \pm a^2}| \quad (\text{符号の順序})$
25. $\int \frac{\sqrt{x^2 \pm a^2}}{x^2} dx = -\frac{\sqrt{x^2 \pm a^2}}{x} + \ln|x + \sqrt{x^2 \pm a^2}|$
26. $\int x^2 \sqrt{x^2 \pm a^2} dx = \frac{x}{8} (2x^2 \pm a^2) \sqrt{x^2 \pm a^2} - \frac{a^4}{8} \ln|x + \sqrt{x^2 \pm a^2}| \quad 27. \int \frac{dx}{x^2 \sqrt{x^2 \pm a^2}} = \mp \frac{\sqrt{x^2 \pm a^2}}{a^2 x}$
28. $\int (x^2 \pm a^2)^{3/2} dx = \frac{x}{8} (2x^2 \pm 5a^2) \sqrt{x^2 \pm a^2} + \frac{3a^4}{8} \ln|x + \sqrt{x^2 \pm a^2}| \quad 29. \int \frac{dx}{(x^2 \pm a^2)^{3/2}} = \frac{\pm x}{a^2 \sqrt{x^2 \pm a^2}}$
30. $\int \sqrt{a^2 - x^2} dx = \frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} \sin^{-1} \frac{x}{a} \quad 31. \int \frac{dx}{\sqrt{a^2 - x^2}} = \sin^{-1} \frac{x}{a} \quad 32. \int \frac{dx}{(a^2 - x^2)^{3/2}} = \frac{x}{a^2 \sqrt{a^2 - x^2}}$
33. $\int \frac{\sqrt{a^2 - x^2}}{x} dx = \sqrt{a^2 - x^2} - a \ln \left| \frac{a + \sqrt{a^2 - x^2}}{x} \right| \quad 34. \int x^2 \sqrt{a^2 - x^2} dx = \frac{x}{8} (2x^2 - a^2) \sqrt{a^2 - x^2} + \frac{a^4}{8} \sin^{-1} \frac{x}{a}$
35. $\int \frac{dx}{x^2 \sqrt{a^2 - x^2}} = -\frac{\sqrt{a^2 - x^2}}{a^2 x} \quad 36. \int \frac{\sqrt{a^2 - x^2}}{x^2} dx = -\frac{\sqrt{a^2 - x^2}}{x} - \sin^{-1} \frac{x}{a} \quad 37. \int \frac{dx}{x \sqrt{a^2 - x^2}} = -\frac{1}{a} \ln \left| \frac{a + \sqrt{a^2 - x^2}}{x} \right|$
38. $\int \frac{x^2 dx}{\sqrt{a^2 - x^2}} = -\frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} \sin^{-1} \frac{x}{a} \quad 39. \int (a^2 - x^2)^{3/2} dx = \frac{x}{8} (5a^2 - 2x^2) \sqrt{a^2 - x^2} + \frac{3a^4}{8} \sin^{-1} \frac{x}{a}$
40. $\int \frac{dx}{b+c \sin ax} = \frac{-2}{a \sqrt{b^2 - c^2}} \tan^{-1} \left[\sqrt{\frac{b-c}{b+c}} \tan \left(\frac{\pi}{4} - \frac{ax}{2} \right) \right] \quad (\text{if } b^2 > c^2) \quad 41. \int \frac{dx}{1+\sin ax} = -\frac{1}{a} \tan \left(\frac{\pi}{4} - \frac{ax}{2} \right)$
42. $\int \frac{dx}{b+c \sin ax} = \frac{-1}{a \sqrt{c^2 - b^2}} \ln \left| \frac{c+b \sin ax + \sqrt{c^2 - b^2} \cos ax}{b+c \sin ax} \right| \quad (\text{if } b^2 < c^2) \quad 43. \int \frac{dx}{1-\sin ax} = \frac{1}{a} \tan \left(\frac{\pi}{4} + \frac{ax}{2} \right)$
44. $\int \frac{dx}{b+c \cos ax} = \frac{2}{a \sqrt{b^2 - c^2}} \tan^{-1} \left[\sqrt{\frac{b-c}{b+c}} \tan \frac{ax}{2} \right] \quad (\text{if } b^2 > c^2) \quad 45. \int \frac{dx}{1+\cos ax} = \frac{1}{a} \tan \frac{ax}{2}$
46. $\int \frac{dx}{b+c \cos ax} = \frac{1}{a \sqrt{c^2 - b^2}} \ln \left| \frac{c+b \cos ax + \sqrt{c^2 - b^2} \sin ax}{b+c \cos ax} \right| \quad (\text{if } b^2 < c^2) \quad 47. \int \frac{dx}{1-\cos ax} = -\frac{1}{a} \cot \frac{ax}{2}$
48. $\int \sin^{-1} ax dx = x \sin^{-1} ax + \frac{1}{a} \sqrt{1 - a^2 x^2} \quad 49. \int x^n \sin^{-1} ax dx = \frac{x^{n+1}}{n+1} \sin^{-1} ax - \frac{a}{n+1} \int \frac{x^{n+1} dx}{\sqrt{1 - a^2 x^2}}$
50. $\int \tan^{-1} ax dx = x \tan^{-1} ax - \frac{1}{2a} \ln(1 + a^2 x^2) \quad 51. \int x^n \tan^{-1} ax dx = \frac{x^{n+1}}{n+1} \tan^{-1} ax - \frac{a}{n+1} \int \frac{x^{n+1} dx}{1 + a^2 x^2}$
52. $\int e^{ax} dx = \frac{e^{ax}}{a} \quad 53. \int x e^{ax} dx = \frac{e^{ax}}{a^2} (ax - 1) \quad 54. \int x^2 e^{ax} dx = \frac{e^{ax}}{a^3} (a^2 x^2 - 2ax + 2)$
55. $\int \frac{dx}{x \ln ax} = \ln |\ln ax|$

初等的でない: $\int e^{x^2} dx, \quad \int e^x \ln x dx, \quad \int \frac{1}{\ln x} dx, \quad \int \frac{e^x}{x} dx, \quad \int \frac{\sin x}{x} dx, \quad \int \frac{\sin^{-1} x}{x} dx, \quad \dots$