1. $\int x^n dx = \frac{x^{n+1}}{n+1} + c,\ n \neq -1$

2. $\int \frac{1}{x} dx = \log x + c$

3. $\int k\, dx = kx + c$

4. $\int e^x dx = e^x + c$

5. $\int a^x dx = \frac{a^x}{\log_e a} + c$

6. $\int \sin x\, dx = -\cos x + c$

7. $\int \cos x\, dx = \sin x + c$

8. $\int \sec^2 x\, dx = \tan x + c$

9. $\int \operatorname{cosec}^2 x\, dx = -\cot x + c$

10. $\int \sec x . \tan x\, dx = \sec x + c$

11. $\int \operatorname{cosec} x \cot x\, dx = -\operatorname{cosec} x + c$

12. $\int \cot x\, dx = \log_e \sin x + c$

13. $\int \tan x\, dx = \log_e \sec x + c$ or $-\log_e \cos x + c$

14. $\int \sec x\, dx = \log_e (\sec x + \tan x) + c = \log_e \tan(\pi/4 + x/2) + C$

15. $\int \operatorname{cosec} x\, dx = \log_e (\operatorname{cosec} x - \cot x) + c = \log \tan(x/2) + C$

16. (i) $\int \frac{1}{\sqrt{a^2 - x^2}} dx = \begin{cases} \sin^{-1} \frac{x}{a} + c \\ -\cos^{-1} \frac{x}{a} + c' \end{cases}$ (ii) $\int \frac{1}{\sqrt{1 - x^2}} dx = \sin^{-1} x + c$

17. (i) $\int \frac{1}{a^2 + x^2} dx = \begin{cases} \frac{1}{a} \tan^{-1} \frac{x}{a} + c \\ -\frac{1}{a} \cot^{-1} \frac{x}{a} + c' \end{cases}$ (ii) $\int \frac{1}{1 + x^2} dx = \begin{cases} \tan^{-1} x + c \\ -\cot^{-1} x + c' \end{cases}$

18. (i) $\int \frac{1}{x\sqrt{x^2 - a^2}} dx = \begin{cases} \frac{1}{a} \sec^{-1} \frac{x}{a} + c \\ -\frac{1}{a} \operatorname{cosec}^{-1} \frac{x}{a} + c \end{cases}$

(ii) $\int \frac{1}{x\sqrt{x^2 - 1}} dx = \sec^{-1} x + c$

19. $\int \cosh x \, dx = \sinh x + c$

20. $\int \sinh x \, dx = \cosh x + c$

21. $\int \text{sech}^2 x \, dx = \tanh x + c$

22. $\int \text{cosech}^2 x \, dx = - \coth x + c$

23. $\int \text{sech } x \tanh x \, dx = - \text{sech } x + c$

23. $\int \text{cosech } x \coth x \, dx = - \text{cosech } x + c$