1. $\int x^\alpha dx = \frac{x^{\alpha+1}}{\alpha+1} + C,\ \alpha \neq -1$
2. $\int \frac{dx}{x} = \ln|x| + C$
3. $\int a^x dx = \frac{a^x}{\ln a} + C$
4. $\int e^x dx = e^x + C$
5. $\int \sin x\ dx = -\cos x + C$
6. $\int \cos x\ dx = \sin x + C$
7. $\int \frac{dx}{\cos^2 x} = \operatorname{tg} x + C$
8. $\int \frac{-dx}{\sin^2 x} = \operatorname{ctg} x + C$
9. $\int \frac{dx}{1+x^2} = \operatorname{arctg} x + C = -\operatorname{arctg} x + C$
10. $\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + C = -\arccos x + C$
11. $\int \frac{dx}{\sqrt{1+x^2}} = \ln(x + \sqrt{1+x^2}) + C$
12. $(f(ax+b))' = a \cdot f'(ax+b)$
13. $\int f(ax+b) \cdot dx = \frac{F(ax+b)}{a}$
14. $\int (\alpha f + \beta g) dx = \alpha F + \beta G + C$
15. $\int u\ dv = uv - \int v\ du$
16. $\int f(g(x)) \cdot g'(x) dx = \int f(u)\ du$

    $u = g(x)$

    $du = g'(x)\ dx$