$$e^{\pm j\theta} = \cos\theta \pm j\sin\theta$$
$$e^{j2\alpha} + e^{j2\beta} = 2\cos(\alpha-\beta)e^{j(\alpha+\beta)}$$
$$e^{j2\alpha} - e^{j2\beta} = j2\sin(\alpha-\beta)e^{j(\alpha+\beta)}$$

$$\cos\theta = \frac{1}{2}(e^{j\theta} + e^{-j\theta}) = \sin(\theta + 90^\circ)$$

$$\sin\theta = \frac{1}{2j}(e^{j\theta} - e^{-j\theta}) = \cos(\theta - 90^\circ)$$

$$\sin^2\theta + \cos^2\theta = 1$$
$$\cos^2\theta - \sin^2\theta = \cos 2\theta$$

$$\cos^2\theta = \tfrac{1}{2}(1 + \cos 2\theta)$$
$$\cos^3\theta = \tfrac{1}{4}(3\cos\theta + \cos 3\theta)$$

$$\sin^2\theta = \tfrac{1}{2}(1 - \cos 2\theta)$$
$$\sin^3\theta = \tfrac{1}{4}(3\sin\theta - \sin 3\theta)$$

$$\sin(\alpha \pm \beta) = \sin\alpha\cos\beta \pm \cos\alpha\sin\beta$$
$$\cos(\alpha \pm \beta) = \cos\alpha\cos\beta \mp \sin\alpha\sin\beta$$

$$\tan(\alpha \pm \beta) = \frac{\tan\alpha \pm \tan\beta}{1 \mp \tan\alpha\tan\beta}$$

$$\sin\alpha\sin\beta = \tfrac{1}{2}\cos(\alpha-\beta) - \tfrac{1}{2}\cos(\alpha+\beta)$$
$$\cos\alpha\cos\beta = \tfrac{1}{2}\cos(\alpha-\beta) + \tfrac{1}{2}\cos(\alpha+\beta)$$
$$\sin\alpha\cos\beta = \tfrac{1}{2}\sin(\alpha-\beta) + \tfrac{1}{2}\sin(\alpha+\beta)$$

$$A\cos(\theta+\alpha) + B\cos(\theta+\beta) = C\cos\theta - S\sin\theta = R\cos(\theta+\phi)$$

where

$$C = A\cos\alpha + B\cos\beta$$
$$S = A\sin\alpha + B\sin\beta$$
$$R = \sqrt{C^2 + S^2} = \sqrt{A^2 + B^2 + 2AB\cos(\alpha-\beta)}$$
$$\phi = \arctan\frac{S}{C} = \arctan\frac{A\sin\alpha + B\sin\beta}{A\cos\alpha + B\cos\beta}$$

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

For $n = -1$

2. $\int \frac{dx}{x} = \ln x.$
3. $\int e^x\,dx = e^x.$
4. $\int a^x\,dx = \frac{a^x}{\ln a}.$
5. $\int \sin x\,dx = -\cos x.$
6. $\int \cos x\,dx = \sin x.$
7. $\int \frac{dx}{\sin^2 x} = -\operatorname{ctg} x.$
8. $\int \frac{dx}{\cos^2 x} = \operatorname{tg} x.$
9. $\int \frac{\sin x}{\cos^2 x}\,dx = \sec x.$
10. $\int \frac{\cos x}{\sin^2 x}\,dx = -\operatorname{cosec} x.$
11. $\int \operatorname{tg} x\,dx = -\ln\cos x.$
12. $\int \operatorname{ctg} x\,dx = \ln\sin x.$
13. $\int \frac{dx}{\sin x} = \ln\operatorname{tg}\frac{x}{2}.$
14. $\int \frac{dx}{\cos x} = \ln\operatorname{tg}\left(\frac{\pi}{4} + \frac{x}{2}\right) = \ln(\sec x + \operatorname{tg} x).$
15. $\int \frac{dx}{1+x^2} = \operatorname{arctg} x = -\operatorname{arcctg} x.$