

In odd, value of T-ratio convert into co-function

$$\begin{aligned}\sin &\rightarrow \cos \\ \cos &\rightarrow \sin\end{aligned}$$

$$\begin{aligned}\tan &\rightarrow \cot \\ \cot &\rightarrow \tan\end{aligned}$$

$$8. \sin(A \pm B) = \sin A \cos B \pm \sin B \cos A \quad \star$$

$$9. \cos(A+B) = \cos A \cos B - \sin A \sin B$$

$$10. \cos(A-B) = \cos A \cos B + \sin A \sin B$$

$$11. \sin(-\theta) = -\sin \theta$$

$$12. \cos(-\theta) = \cos \theta \quad (\text{Absorb -ve sign})$$

$$13. \sin^2 \theta + \cos^2 \theta = 1$$

divide by $\sin^2 \theta$

$$1 + \cot^2 \theta = \csc^2 \theta$$

divide by $\cos^2 \theta$

$$\tan^2 \theta + 1 = \sec^2 \theta$$

$$14. \sin 2\theta = 2 \sin \theta \cos \theta$$

$$15. \sin\left(2 \cdot \frac{\theta}{2}\right) = 2 \sin\left(\frac{\theta}{2}\right) \cos\left(\frac{\theta}{2}\right)$$

$$16. \cos 2\theta = \cos^2 \theta - \sin^2 \theta$$

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

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

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

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

$$17. \cos\left(\frac{\theta}{2}\right) = \cos^2\left(\frac{\theta}{2}\right) - \sin^2\left(\frac{\theta}{2}\right)$$