where as the transformation begins at 180^0 or 360^0, the same trigonometric functions will be retained, however the signs (+ or -) of the functions decides ASTC rule.

COMPOUND ANGLES

Sin(A+B)=sinAcosB+cosAsinB.

Sin(A-B)= sinAcosB-cosAsinB.

Cos(A+B)=cosAcosB-sinAsinB.

Cos(A-B)=cosAcosB+sinAsinB.

$\tan(A+B)= \dfrac{\tan A + \tan B}{1 - \tan A \tan B}$

$\tan(A-B)= \dfrac{\tan A - \tan B}{1 + \tan A \tan B}$

$\tan\left(\dfrac{\pi}{4} + A\right) = \dfrac{1 + \tan A}{1 - \tan A}$

$\tan\left(\dfrac{\pi}{4} - A\right) = \dfrac{1 - \tan A}{1 + \tan A}$

$\tan(A+B+C)= \dfrac{\tan A + \tan B + \tan C - \tan A \tan B \tan C}{1 - (\tan A \tan B + \tan B \tan C + \tan C \tan A)}$

$\sin(A+B)\sin(A-B) = \sin^2 A - \sin^2 B = \cos^2 B - \cos^2 A$

$\cos(A+B)\cos(A-B) = \cos^2 A - \sin^2 B$

MULTIPLE ANGLES

1. $\sin 2A = 2\sin A \cos A$, 2. $\sin 2A = \dfrac{2\tan A}{1 + \tan^2 A}$.

3. $\cos 2A = \cos^2 A - \sin^2 A$

$= 1 - 2\sin^2 A$.

$= 2\cos^2 A - 1$

$= \dfrac{1 - \tan^2 A}{1 + \tan^2 A}$

4. $\tan 2A = \dfrac{2\tan A}{1 - \tan^2 A}$, 5. $1 + \cos 2A = 2\cos^2 A$, 6. $\cos^2 A = \dfrac{1}{2}(1 + \cos 2A)$.

7. $1 - \cos 2A = 2\sin^2 A$, 8. $\sin^2 A = \dfrac{1}{2}(1 - \cos 2A)$, 9. $1 + \sin 2A = (\sin A + \cos A)^2$,

10. $1 - \sin 2A = (\cos A - \sin A)^2 = (\sin A - \cos A)^2$, 11. $\cos 3A = 4\cos^3 A - 3\cos A$,

12. $\sin 3A = 3\sin A - 4\sin^3 A$, 13. $\tan 3A = \dfrac{3\tan A - \tan^3 A}{1 - 3\tan^2 A}$.

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