Addition and Subtraction Formulae

1) $\sin(A+B) = \sin(A)\cos(B) + \cos(A)\sin(B)$
2) $\cos(A+B) = \cos(A)\cos(B) - \sin(A)\sin(B)$
3) $\sin(A-B) = \sin(A)\cos(B) - \cos(A)\sin(B)$
4) $\cos(A-B) = \cos(A)\cos(B) + \sin(A)\sin(B)$
5) $\tan(A+B) = \frac{\tan(A)+\tan(B)}{1-\tan(A)\tan(B)}$
6) $\tan(A-B) = \frac{\tan(A)-\tan(B)}{1+\tan(B)\tan(A)}$
7) $\cot(A+B) = \frac{\cot(B)\cot(A)-1}{\cot(B)+\cot(A)}$
8) $\cot(A-B) = \frac{\cot(B)\cot(A)-1}{\cot(B)-\cot(A)}$
9) $\sin(A+B)\sin(A-B) = \sin^2 A - \sin^2 (B)$
$= \cos^2 (B) - \cos^2 (A)$

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

11) $\sin(A+B+C) = \sin(A)\cos(B)\cos(C) + \cos(A)\sin(B)\cos(C) + \cos(A)\cos(B)\sin(C) - \sin(A)\sin(B)\sin(C)$

12) $\cos(A+B+C) = \cos(A)\cos(B)\cos(C) - \cos(A)\sin(B)\sin(C) - \cos(B)\sin(C)\sin(A) - \cos(C)\sin(A)\sin(B)$

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