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

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)
$$\cot(A+B) = \frac{\cot(B)\cot(A)-1}{\cot(B)+\cot(A)}$$

7)
$$\cot(A + B) = \frac{\cot(B)\tan(A)}{\cot(B)\cot(A) - 1}$$

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