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

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

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

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