Compound angle formula

A *compound angle formula* or *addition formula* is a trigonometric identity which expresses a trigonometric function of $(A + B)$ or $(A - B)$ in terms of trigonometric functions of A and B.

The three basic formulae are:

$$\begin{aligned}\cos(A \pm B) &= \cos A \cos B \mp \sin A \sin B \\ \sin(A \pm B) &= \sin A \cos B \pm \cos A \sin B \\ \tan(A \pm B) &= \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}\end{aligned}$$

There are corresponding results for hyperbolic functions which can be obtained by applying Osborn's Rule:

$$\begin{aligned}\cosh(A \pm B) &= \cosh A \cosh B \pm \sinh A \sinh B \\ \sinh(A \pm B) &= \sinh A \cosh B \pm \cosh A \sinh B \\ \tanh(A \pm B) &= \frac{\tanh A \pm \tanh B}{1 \pm \tanh A \tanh B}\end{aligned}$$