Osborn's rule

Osborn's rule is a rule for converting a trigonometric identity into a corresponding hyperbolic one. The rule states that one replaces every occurrence of sine or cosine with the corresponding hyperbolic sine or cosine, and wherever one has a product of two sines, the product of the hyperbolic sines must be negated.

For example, $\cos 2A = 2\cos^2 A - 1$ becomes $\cosh 2A = 2\cosh^2 A - 1$, while $\cos 2A = 1 - \sin^2 A$ becomes $\cosh 2A = 1 + \sinh^2 A$.

Identities involving other trigonometric functions must be written in terms of sine and cosine first for this rule to be reliably applied.

This rule does not apply to formulae involving calculus.