

Hiperbolic identities

$$1. \operatorname{ch}^2 x - \operatorname{sh}^2 x = 1$$

$$2. \operatorname{sh} 2x = 2 \operatorname{sh} x \operatorname{ch} x$$

$$3. \operatorname{ch} 2x = \operatorname{ch}^2 x + \operatorname{sh}^2 x$$

$$4. \operatorname{sh}^2 x = \frac{\operatorname{ch} 2x - 1}{2}$$

$$5. \operatorname{ch}^2 x = \frac{\operatorname{ch} 2x + 1}{2}$$