

Trigonometrik Özdeşlikler

1. $\sin x = \frac{1}{\csc x}$ $\cos x = \frac{1}{\sec x}$
2. $\tan x = \frac{1}{\cot x} = \frac{\sin x}{\cos x}$
3. $\sin^2 x + \cos^2 x = 1$
4. $1 + \tan^2 x = \sec^2 x$
5. $1 + \cot^2 x = \csc^2 x$
6. $\sin 2x = 2 \sin x \cos x$
7. $\cos 2x = \cos^2 x + \sin^2 x = 2 \cos^2 x - 1 = 1 - 2 \sin^2 x$
8. $\sin(x \pm y) = \sin x \cos y \pm \sin y \cos x$
9. $\cos(x - y) = \cos x \cos y + \sin x \sin y$
10. $\cos(x + y) = \cos x \cos y - \sin x \sin y$
11. $\sin x + \sin y = 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2}$
12. $\sin x - \sin y = 2 \sin \frac{x-y}{2} \cos \frac{x+y}{2}$
13. $\cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2}$
14. $\cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}$



Hiperbolik Fonksiyonlar

$$1. \sinh x = \frac{e^x - e^{-x}}{2}$$

$$2. \cosh x = \frac{e^x + e^{-x}}{2}$$

$$3. \tanh x = \frac{e^x - e^{-x}}{e^x + e^{-x}}$$

$$4. \cosh^2 x - \sinh^2 x = 1$$

$$5. \sinh 2x = 2 \sinh x \cosh x$$

$$6. \cosh 2x = \cosh^2 x + \sinh^2 x$$

$$7. \sinh(x \pm y) = \sinh x \cosh y \pm \sinh y \cosh x$$

$$8. \cosh(x \pm y) = \cosh x \cosh y \mp \sinh x \sinh y$$

$$9. \tanh(x \pm y) = \frac{\tanh x \pm \tanh y}{1 \pm \tanh x \tanh y}$$

$$10. \arg \sinh x = \ln(x + \sqrt{x^2 + 1})$$

$$11. \arg \cosh x = \pm \ln(x + \sqrt{x^2 - 1})$$

$$12. \arg \tanh x = \frac{1}{2} \ln \left(\frac{1+x}{1-x} \right)$$

