$$\sin(\alpha) = \cos(\alpha) \cdot \tan(\alpha) \qquad \cos(\alpha) = \frac{\sin(\alpha)}{\tan(\alpha)} \qquad \tan(\alpha) = \frac{\sin(\alpha)}{\cos(\alpha)}$$

$$\sin^2(\alpha) + \cos^2(\alpha) = 1 \qquad \sin^2(\alpha) = 1 - \cos^2(\alpha) \qquad \cos^2(\alpha) = 1 - \sin^2(\alpha)$$

Addition, Substraktion

$$\sin(\alpha \pm \beta) = \sin(\alpha) \cdot \cos(\beta) \pm \cos(\alpha) \cdot \sin(\beta)$$

$$\cos(\alpha \pm \beta) = \cos(\alpha) \cdot \cos(\beta) \mp \sin(\alpha) \cdot \sin(\beta)$$

$$\tan(\alpha \pm \beta) = \frac{\tan(\alpha) \pm \tan(\beta)}{1 \mp \tan(\alpha) \cdot \tan(\beta)}$$

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doppelte Winkel

$$\sin(2\alpha) = 2 \cdot \sin(\alpha) \cdot \cos(\alpha)$$

$$\cos(2\alpha) = \cos^2(\alpha) - \sin^2(\alpha) = 1 - 2\sin^2(\alpha) = 2\cos^2(\alpha) - 1$$

$$\tan(2\alpha) = \frac{2 \cdot \tan(\alpha)}{1 - \tan^2(\alpha)}$$

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halbe Winkel

$$\sin(\alpha) = 2 \cdot \sin\left(\frac{\alpha}{2}\right) \cdot \cos\left(\frac{\alpha}{2}\right)$$

$$\cos(\alpha) = \cos^2\left(\frac{\alpha}{2}\right) - \sin^2\left(\frac{\alpha}{2}\right)$$

$$\tan(\alpha) = \frac{2 \cdot \tan\left(\frac{\alpha}{2}\right)}{1 - \tan^2\left(\frac{\alpha}{2}\right)}$$