

TRIGONOMETRISKA FORMLER

Additions- och subtraktionsformlerna

$$\cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$$

$$\cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$$

$$\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$$

$$\sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$$

$$\tan(\alpha + \beta) = \frac{\tan \alpha + \tan \beta}{1 - \tan \alpha \tan \beta}$$

$$\tan(\alpha - \beta) = \frac{\tan \alpha - \tan \beta}{1 + \tan \alpha \tan \beta}$$

Formler för dubbla vinkeln

$$\sin 2\alpha = 2 \sin \alpha \cos \alpha$$

$$\cos 2\alpha = \cos^2 \alpha - \sin^2 \alpha$$

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

Omskrivning till amplitud-fasvinkelform

$$a \cos v + b \sin v = c \sin(v + \phi)$$

$$c = \sqrt{a^2 + b^2}$$

$$\phi = \arctan \frac{a}{b} \text{ om } b > 0$$

$$\phi = \arctan \frac{a}{b} + \pi \text{ om } b < 0$$