

$$\sin(0 + (\pi k)) = 0 = \cos\left(\frac{\pi}{2} + (\pi k)\right), \cos(0) = 1 = \sin\left(\frac{\pi}{2}\right) .1$$

$$\sin(-\alpha) = -\sin(\alpha), \cos(-\alpha) = \cos(\alpha) .2$$

$$\cos(\varphi) = \begin{cases} -\sin(\alpha) & \varphi = (\alpha + \frac{1}{2}\pi) + 2\pi k \\ \sin(\alpha) & \varphi = (\frac{1}{2}\pi - \alpha) + 2\pi k \\ -\cos(\alpha) & \varphi = (\alpha + \pi) + 2\pi k \\ -\cos(\alpha) & \varphi = (\pi - \alpha) + 2\pi k \end{cases} .3$$

$$\sin(\varphi) = \begin{cases} \cos(\alpha) & \varphi = (\alpha + \frac{1}{2}\pi) + 2\pi k \\ \cos(\alpha) & \varphi = (\frac{1}{2}\pi - \alpha) + 2\pi k \\ -\sin(\alpha) & \varphi = (\alpha + \pi) + 2\pi k \\ \sin(\alpha) & \varphi = (\pi - \alpha) + 2\pi k \end{cases} .4$$

$$\forall \theta \in \mathbb{R} \tan(\theta) = \frac{\sin(\theta)}{\cos(\theta)} \text{ מוגדרת } \tan : \mathbb{R} \setminus \{\frac{1}{2}\pi + \pi k \mid k \in \mathbb{Z}\} \rightarrow \mathbb{R} .5$$

$$\cos(\alpha \pm \beta) = \cos(\alpha)\cos(\beta) \mp \sin(\alpha)\sin(\beta) .6$$

$$\sin(\alpha \pm \beta) = \sin(\alpha)\cos(\beta) \pm \sin(\beta)\cos(\alpha) .7$$

$$\cos(\alpha) - \cos(\beta) = -2\sin\left(\frac{\alpha+\beta}{2}\right)\sin\left(\frac{\alpha-\beta}{2}\right) .8$$

$$\sin(\alpha) - \sin(\beta) = 2\sin\left(\frac{\alpha+\beta}{2}\right)\sin\left(\frac{\alpha-\beta}{2}\right) .9$$

$$\sin^2(\alpha) + \cos^2(\alpha) = 1 .10$$