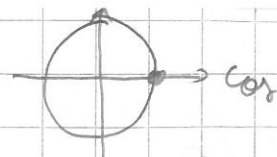
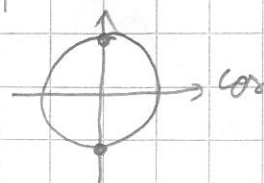


6.6 a) $\cos x = 1$
 $(\Rightarrow) \underline{x = m2\pi, m \in \mathbb{Z}}$



b) $\cos x = 0$
 $(\Rightarrow) \underline{x = \pm \frac{\pi}{2} + m2\pi, m \in \mathbb{Z}}$



$\uparrow \text{TAI: } \underline{x = \frac{\pi}{2} + m\pi, m \in \mathbb{Z}}$

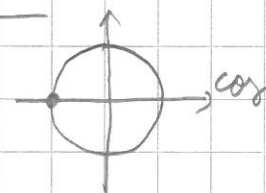
c) $\cos 2x = 0$
 $(\Rightarrow) 2x = \frac{\pi}{2} + m\pi \quad | :2$

$(\Rightarrow) \underline{x = \frac{\pi}{4} + m\frac{\pi}{2}, m \in \mathbb{Z}}$

d) $\cos 2x = -1$

$(\Rightarrow) 2x = \pi + m2\pi \quad | :2$

$(\Rightarrow) \underline{x = \frac{\pi}{2} + m\pi, m \in \mathbb{Z}}$

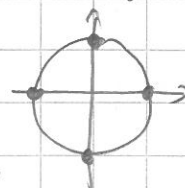
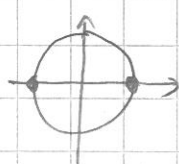


6.10 a) $\cos 3x = \cos x$

$(\Rightarrow) 3x = x + m2\pi \quad \text{bzw.} \quad 3x = -x + m2\pi$

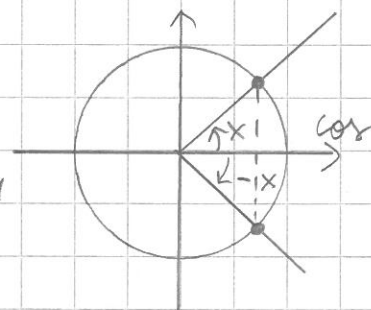
$(\Rightarrow) 2x = m2\pi \quad | :2 \quad \text{bzw.} \quad 4x = m2\pi \quad | :4$

$(\Rightarrow) x = m\pi \quad \text{bzw.} \quad x = m\frac{\pi}{2}$



$\swarrow \searrow$
 gesamt
 $\underline{x = m\frac{\pi}{2}, m \in \mathbb{Z}}$

$\underline{x = m\frac{\pi}{2}, m \in \mathbb{Z}}$



b) $x \in [-\pi, \pi] : \underline{0, \frac{\pi}{2}, \pi, -\frac{\pi}{2}, -\pi}$

6.11 a) $\cos^2 x - \sin^2 x = -1$

$\sin^2 x + \cos^2 x = 1$

$(\Rightarrow) \cos^2 x = 1 - \sin^2 x$

$(\Rightarrow) (1 - \sin^2 x) - \sin^2 x = -1$

$(\Rightarrow) 1 - 2\sin^2 x = -1$

$(\Rightarrow) 2 = 2\sin^2 x \quad | :2$

$(\Rightarrow) \sin^2 x = 1 \quad | \sqrt{}$

$(\Rightarrow) \sin x = \pm 1$

$(\Rightarrow) \underline{x = \frac{\pi}{2} + m\pi, m \in \mathbb{Z}}$

