

■ Equations trigonométriques simples

1) $2 \sin(2x) + 1 = 0$

2) $\sqrt{2} \cos(3x) + 1 = 0$

3) $\operatorname{tg}(2x) + \sqrt{3} = 0$

4) $2 \cos\left(x + \frac{\pi}{4}\right) + \sqrt{3} = 0$

5) $-\sqrt{3} \operatorname{tg}\left(\frac{\pi}{3} - 2x\right) - 1 = 0$

6) $\sin\left(x + \frac{\pi}{4}\right) + 1 = 0$

7) $2 \sin\left(3x + \frac{\pi}{6}\right) + 1 = 0$

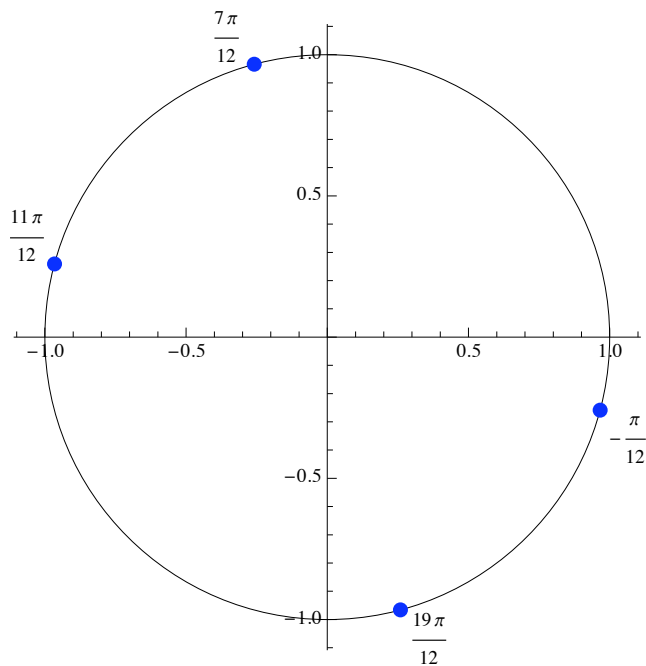
8) $\operatorname{cotg}(2x) = \sqrt{3}$

9) $\sin\left(\frac{\pi}{6} - 3x\right) = \frac{1}{2}$

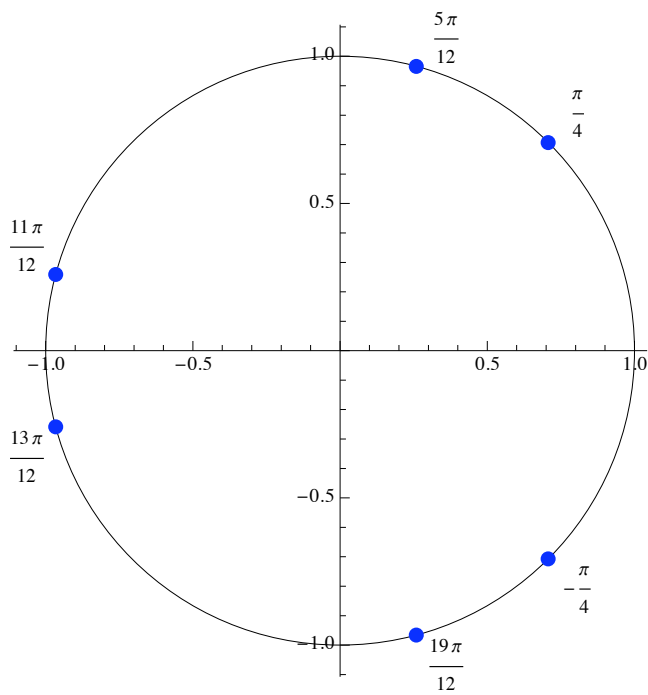
10) $\cos\left(x + \frac{\pi}{6}\right) = 0$

■ Solutions

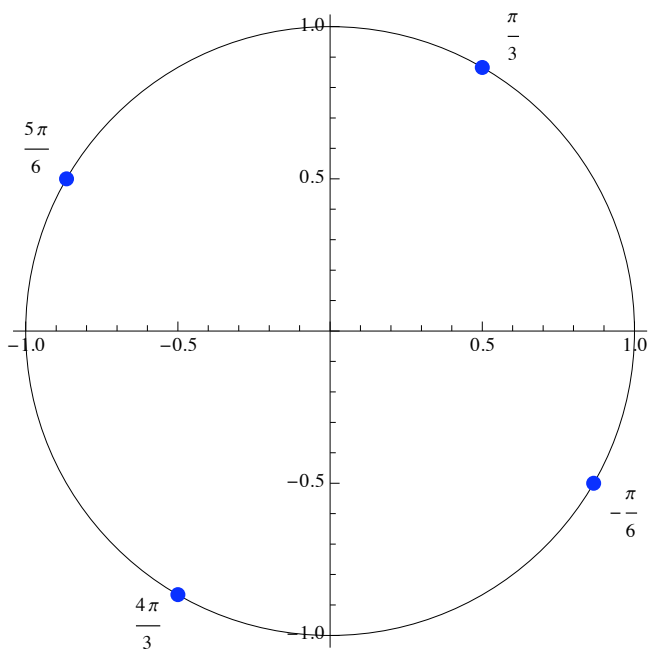
$$1) \begin{cases} x = k\pi - \frac{\pi}{12} & (1) \\ x = \pi k + \frac{7\pi}{12} & (2) \end{cases}$$



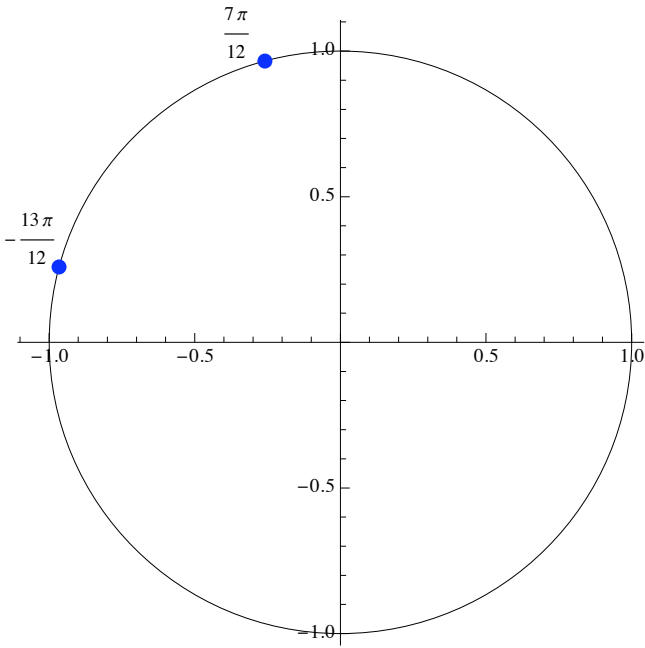
$$2) \begin{cases} x = \frac{2k\pi}{3} - \frac{\pi}{4} & (1) \\ x = \frac{2\pi k}{3} + \frac{\pi}{4} & (2) \end{cases}$$



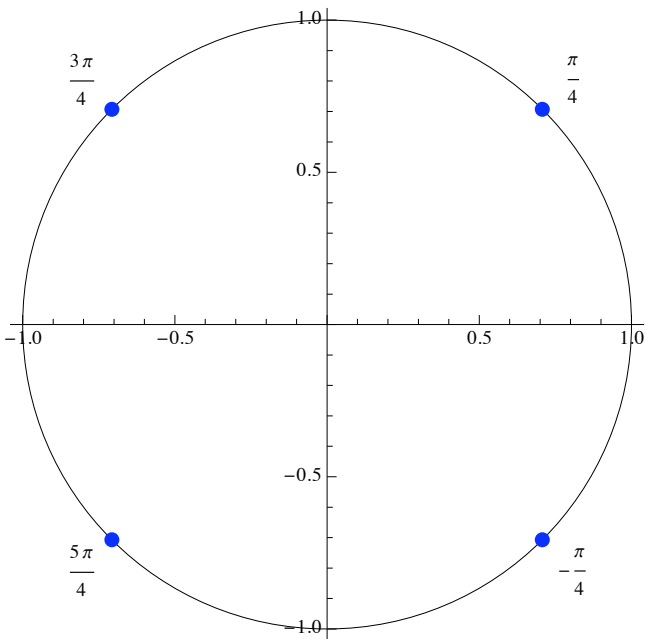
$$3) x = \frac{k\pi}{2} - \frac{\pi}{6}$$



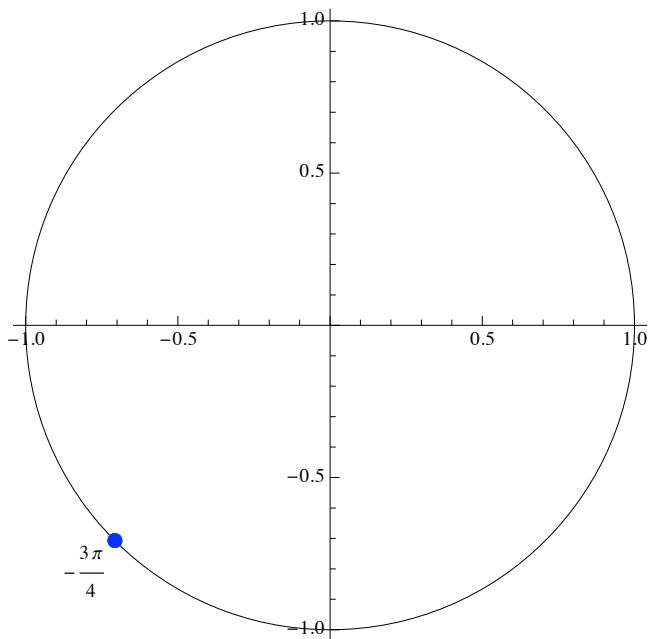
$$4) \begin{cases} x = 2k\pi - \frac{13\pi}{12} & (1) \\ x = 2\pi k + \frac{7\pi}{12} & (2) \end{cases}$$



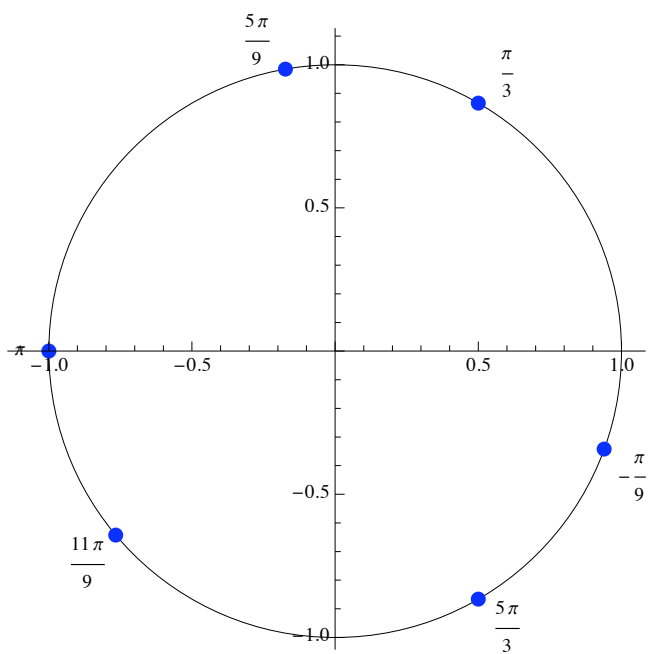
$$5) x = \frac{k\pi}{2} - \frac{\pi}{4}$$



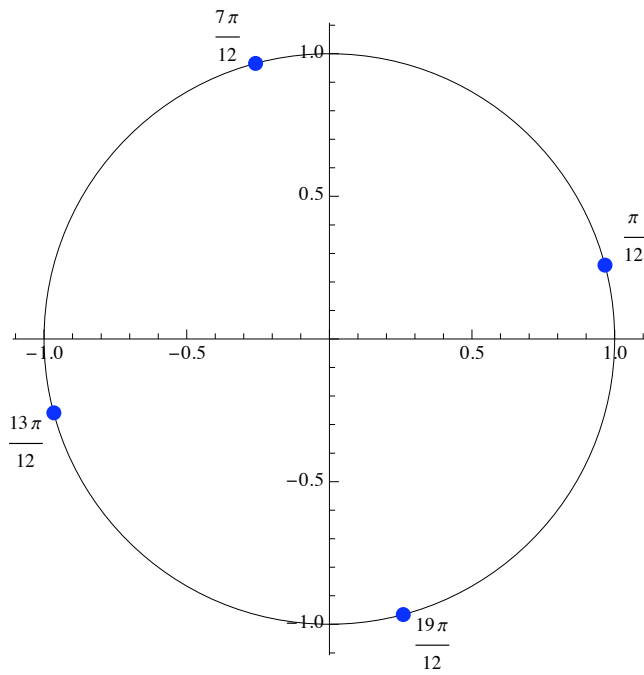
$$6) \begin{cases} x = 2k\pi - \frac{3\pi}{4} & (1) \\ x = 2k\pi + \frac{5\pi}{4} & (2) \end{cases}$$



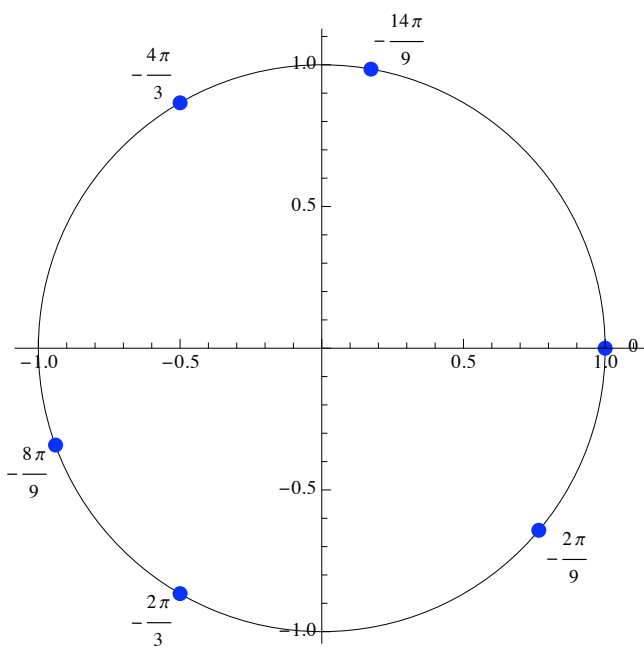
$$7) \begin{cases} x = \frac{2k\pi}{3} - \frac{\pi}{9} & (1) \\ x = \frac{2\pi k}{3} + \frac{\pi}{3} & (2) \end{cases}$$



$$8) x = \frac{\pi k}{2} + \frac{\pi}{12}$$



$$9) \begin{cases} x = -\frac{2\pi k}{3} - \frac{2\pi}{9} & (1) \\ x = -\frac{2k\pi}{3} & (2) \end{cases}$$



$$10) \begin{cases} x = 2k\pi - \frac{2\pi}{3} & (1) \\ x = 2\pi k + \frac{\pi}{3} & (2) \end{cases}$$

