

$$\sin^8 x + \cos^8 x = 17/16 \cos^2 2x$$

$$(\sin^2 x)^4 + (\cos^2 x)^4 = 17/16 \cos^2 2x$$

$$((1-\cos 2x)/2)^4 + ((1+\cos 2x)/2)^4 = 17/16 \cos^2 2x$$

$$\cos 2x = z$$

$$((1-z)/2)^4 + ((1+z)/2)^4 = 17/16 z^2$$

$$(1-z)^4/16 + (1+z)^4/16 = 17/16 z^2$$

$$(1-4z+6z^2-4z^3+z^4+1+4z+6z^2+4z^3+z^4)/16 = 17/16 z^2 \quad | \cdot 16$$

$$2+12z^2+2z^4-17z^2=0$$

$$2z^4-5z^2+2=0$$

$$z^2=y$$

$$2y^2-5y+2=0$$

$$D=9$$

$$y_1=(5+3)/4=2$$

$$y_2=(5-3)/4=1/2$$

$$z^2=2$$

$$z=\pm\sqrt{2}$$

$$z^2=1/2$$

$$z=\pm\sqrt{1/2}$$

$$\cos 2x = \sqrt{2}$$

Реш нет

$$\cos 2x = \sqrt{1/2}$$

$$\cos 2x = \sqrt{2}/2$$

$$2x = \pm P/4 + 2Pk$$

$$x = \pm P/8 + Pk$$

$$\cos 2x = -\sqrt{2}/2$$

$$2x = \pm 3P/4 + 2Pk$$

$$x = \pm 3P/8 + Pk$$

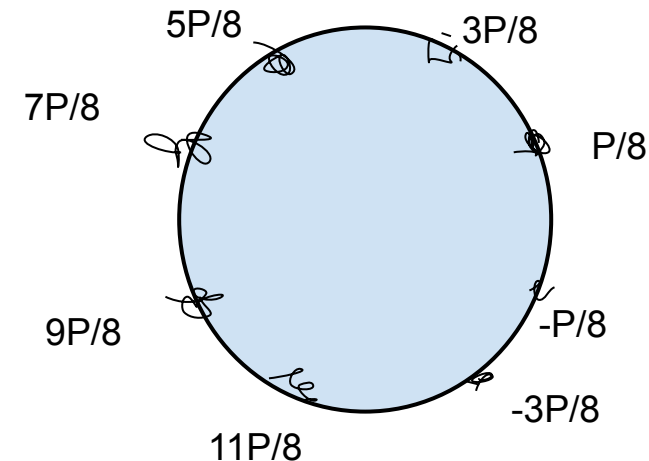
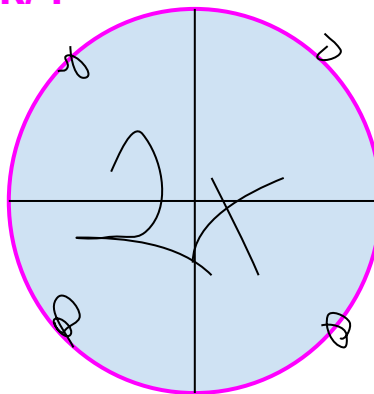
Ответ:  $\pm P/8 + Pk; \pm 3P/8 + Pk \quad == \quad P/8 + Pk/4$

$$\cos 2x = \sqrt{2}/2$$

$$\cos 2x = -\sqrt{2}/2$$

$$2x = P/4 + Pk/2$$

$$x = P/8 + Pk/4$$



$$\begin{aligned} \cos 2x &= \cos^2 x - \sin^2 x = \\ &= 1 - \sin^2 x - \sin^2 x = 1 - 2\sin^2 x \\ &= \cos^2 x - (1 - \cos^2 x) = 2\cos^2 x - 1 \end{aligned}$$

$$\begin{aligned} \cos 2x &= 1 - 2\sin^2 x \\ \sin^2 x &= (1 - \cos 2x)/2 \end{aligned}$$

$$\begin{aligned} \cos 2x &= 2\cos^2 x - 1 \\ \cos^2 x &= (1 + \cos 2x)/2 \end{aligned}$$

