

$$\cos x - \cos y = -2\sin\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$$

$$\sin(P\cos x) = \cos(P\sin x)$$

$$\cos\left(\frac{P}{2} - P\cos x\right) - \cos(P\sin x) = 0$$

$$-2\sin\left(\frac{P/2 - P\cos x + P\sin x}{2}\right)\sin\left(\frac{P/2 - P\cos x - P\sin x}{2}\right) = 0$$

$$\sin\left(\frac{P/2 - P\cos x + P\sin x}{2}\right) = 0$$

$$\frac{P/2 - P\cos x + P\sin x}{2} = Pk$$

$$P/2 - P\cos x + P\sin x = 2Pk$$

$$\sin x - \cos x = 2k^{-1/2}$$

$$\sqrt{2}\{\sin x \cdot 1/\sqrt{2} - \cos x \cdot 1/\sqrt{2}\} = \sqrt{2}\{\sin x \cos P/4 - \sin P/4 \cos x\} = \sqrt{2}\sin(x - P/4)$$

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

$$\sin t = 1/\sqrt{2}$$

$$t = P/4$$

$$\sqrt{2}\sin(x - P/4) = (4k - 1)/2$$

$$\sin(x - P/4) = (4k - 1)/2\sqrt{2}$$

$$(4k - 1)/2\sqrt{2} \leq 1$$

$$4k - 1 \leq 2\sqrt{2}$$

$$4k \leq 2\sqrt{2} + 1$$

$$k \leq \sqrt{2}/2 + 1/4$$

$$k = 0$$

$$(4k - 1)/2\sqrt{2} \geq -1$$

$$4k - 1 \geq -2\sqrt{2}$$

$$4k \geq -2\sqrt{2} + 1$$

$$k \geq -\sqrt{2}/2 + 1/4$$

$$\sin(x - P/4) = -1/2\sqrt{2}$$

$$x - P/4 = 2Pk - \arcsin(1/2\sqrt{2})$$

$$x = 2Pk + P/4 - \arcsin(1/2\sqrt{2})$$

$$x - P/4 = 2Pk + P + \arcsin(1/2\sqrt{2})$$

$$x = 2Pk + 5P/4 + \arcsin(1/2\sqrt{2})$$

$$\sin\left(\frac{P/2 - P\cos x - P\sin x}{2}\right) = 0$$

$$\frac{P/2 - P\cos x - P\sin x}{2} = Pk$$

$$P/2 - P\cos x - P\sin x = 2Pk$$

$$\cos x + \sin x = (1 - 4k)/2$$

$$\sqrt{2}\sin\left(x + P/4\right) = (1 - 4k)/2$$

$$\sin\left(x + P/4\right) = (1 - 4k)/2\sqrt{2}$$

$$k = 0$$

$$\sin\left(x + P/4\right) = 1/2\sqrt{2}$$

$$x = 2Pk - P/4 + \arcsin(1/2\sqrt{2})$$

$$x = 2Pk + 3P/4 - \arcsin(1/2\sqrt{2})$$

Ответ:

$$x = 2Pk + P/4 - \arcsin(1/2\sqrt{2})$$

$$x = 2Pk + 5P/4 + \arcsin(1/2\sqrt{2})$$

$$x = 2Pk - P/4 + \arcsin(1/2\sqrt{2})$$

$$x = 2Pk + 3P/4 - \arcsin(1/2\sqrt{2})$$