

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

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

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

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

$$\sin(x^2) - \cos 2x = 0$$

$$\cos(P/2 - x^2) - \cos 2x = 0$$

$$\cos q - \cos h = -2 \sin((q+h)/2) \sin((q-h)/2)$$

$$-2 \sin((P/2 - x^2 + 2x)/2) \sin((P/2 - x^2 - 2x)/2) = 0$$

$$\sin((P/2 - x^2 + 2x)/2) \sin((P/2 - x^2 - 2x)/2) = 0$$

$$\sin((P/2 - x^2 + 2x)/2) = 0$$

$$(P/2 - x^2 + 2x)/2 = Pn$$

$$P/2 - x^2 + 2x = 2Pn$$

$$2x - x^2 = 2Pn - P/2 \quad | *(-1)$$

$$x^2 - 2x = P/2 - 2Pn \quad | +1$$

$$x^2 - 2x + 1 = P/2 - 2Pn + 1$$

$$(x-1)^2 = P/2 - 2Pn + 1$$

$$x-1 = \pm \sqrt{P/2 - 2Pn + 1}$$

$$x = \pm \sqrt{P/2 - 2Pn + 1} + 1$$

$$P/2 - 2Pn + 1 \geq 0$$

$$P/2 + 1 \geq 2Pn$$

$$(P/2 + 1) / 2P \geq n$$

$$n \leq (P/2 + 1) / 2P$$

$$x = \pm \sqrt{P/2 - 2Pn + 1} + 1, \quad n \leq (P/2 + 1) / 2P$$

$$\sin((P/2 - x^2 - 2x)/2) = 0$$

$$(P/2 - x^2 - 2x)/2 = Pn$$

$$P/2 - x^2 - 2x = 2Pn$$

$$-x^2 - 2x = 2Pn - P/2 \quad | *(-1) + 1$$

$$x^2 + 2x + 1 = P/2 - 2Pn + 1$$

$$(x+1)^2 = P/2 - 2Pn + 1$$

$$x+1 = \pm \sqrt{P/2 - 2Pn + 1}$$

$$x = \pm \sqrt{P/2 - 2Pn + 1} - 1$$

$$P/2 - 2Pn + 1 \geq 0$$

$$P/2 + 1 \geq 2Pn$$

$$n \leq (P/2 + 1) / 2P$$

$$x = \pm \sqrt{P/2 - 2Pn + 1} - 1, \quad n \leq (P/2 + 1) / 2P$$

Ответ:  $x = \pm \sqrt{P/2 - 2Pn + 1} + 1, \quad n \leq (P/2 + 1) / 2P;$   
 $\pm \sqrt{P/2 - 2Pn + 1} - 1, \quad n \leq (P/2 + 1) / 2Pn.$

$$\sin a + \sin b = 0$$

$$\sin a - \sin b = 0$$

$$\cos a + \sin b = 0$$

$$\cos a - \sin b = 0$$

$$\sin x = \cos(P/2 - x)$$

$$\cos(P/2 - x) = \cos P/2 \cos x + \sin P/2 \sin x = \sin x$$

$$\cos x = \sin(P/2 - x)$$

$$\sin(P/2 - x) = \sin P/2 \cos x - \cos P/2 \sin x = \cos x$$

$$\operatorname{tg}(P/2(\cos x)) = \operatorname{ctg}(P/2(\sin x))$$

$$(P/2(\cos x)) = t$$

$$(P/2(\sin x)) = k$$

$$\sin t / \cos t = \cos k / \sin k$$

$$\sin t / \cos t - \cos k / \sin k = 0$$

$$(\sin t \sin k - \cos k \cos t) / \cos t \sin k = 0$$

$$-1 \cdot (\cos k \cos t - \sin t \sin k) / \cos t \sin k = 0$$

$$\cos(k+t) / \cos t \sin k = 0$$

$$\cos t \neq 0 \quad \&\& \quad \sin k \neq 0$$

$$\cos(k+t) = 0$$

$$\cos(P/2(\sin x) + P/2(\cos x)) = 0$$

$$\cos(P/2(\sin x + \cos x)) = 0$$

$$P/2(\sin x + \cos x) = P/2 + Pn \quad | P/2$$

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

$$\sqrt{2} \cdot (\sin x / \sqrt{2} + \cos x / \sqrt{2}) = 1 + 2n$$

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

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

$$t = P/4$$

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

$$\sqrt{2} \cdot \sin(x + P/4) = 1 + 2n \quad | : \sqrt{2}$$

$$-1 \leq (1 + 2n) / \sqrt{2} \leq 1$$

$$-\sqrt{2} \leq 1 + 2n \leq \sqrt{2}$$

$$-\sqrt{2} - 1 \leq 2n \leq \sqrt{2} - 1$$

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

$$n = 0; \quad n = -1$$

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

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

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

$$x = 2Pn$$

$$x + P/4 = 3P/4 + 2Pn$$

$$x = P/2 + 2Pn$$

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

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

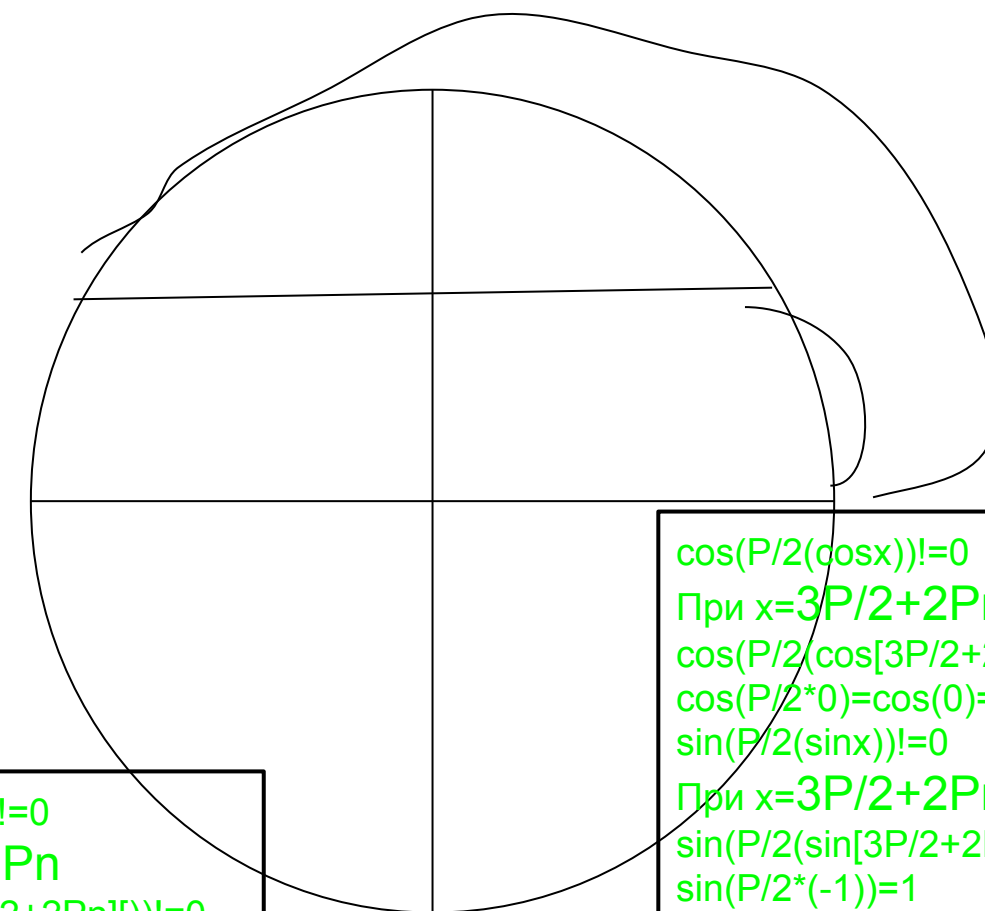
$$x + P/4 = 5P/4 + 2Pn$$

$$x = P + 2Pn$$

$$x + P/4 = 7P/4 + 2Pn$$

$$x = 3P/2 + 2Pn$$

Ответ:  $P/2 + 2Pn; \quad 3P/2 + 2Pn$



$\cos(P/2(\cos x)) \neq 0$   
При  $x = P/2 + 2Pn$   
 $\cos(P/2(\cos[P/2 + 2Pn])) \neq 0$   
 $\cos(P/2 + 2Pn) = 0$   
 $\cos(P/2 * 0) = \cos(0) = 1$   
 $\sin(P/2(\sin x)) \neq 0$   
При  $x = P/2 + 2Pn$   
 $\sin(P/2(\sin[P/2 + 2Pn])) \neq 0$   
 $\sin(P/2 + 2Pn) = 1$   
 $\sin(P/2 * 1) = 1$

$\cos(P/2(\cos x)) \neq 0$   
При  $x = 3P/2 + 2Pn$   
 $\cos(P/2(\cos[3P/2 + 2Pn])) \neq 0$   
 $\cos(P/2 * 0) = \cos(0) = 1$   
 $\sin(P/2(\sin x)) \neq 0$   
При  $x = 3P/2 + 2Pn$   
 $\sin(P/2(\sin[3P/2 + 2Pn])) \neq 0$   
 $\sin(P/2 * (-1)) = 1$   
 $-\sin P/2 = -1$

$\cos(P/2(\cos x)) \neq 0$   
При  $x = 2Pn$   
 $\cos(P/2 * \cos 2Pn) \neq 0$   
 $\cos(P/2) = 0$

$\cos(P/2(\cos x)) \neq 0$   
При  $x = P + 2Pn$   
 $\cos(P/2(\cos[P + 2Pn])) \neq 0$   
 $\cos(P/2) = 0$