

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

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

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

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

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

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

$$2\cos((x^2 + \pi/2 - 2x)/2) \cdot \sin((x^2 - \pi/2 - 2x)/2) = 0$$

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

$$\cos(x^2/2 + \pi/4 - x) = 0$$

$$x^2/2 + \pi/4 - x = \pi/2 + \pi k$$

$$x^2/2 - x = \pi/4 + \pi k$$

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

$$2x^2 - 4x - \pi - 4\pi k = 0$$

$$2x^2 - 4x + (-\pi - 4\pi k) = 0$$

$$D/4 = 4 + 2\pi + 8\pi k$$

$$x_1 = (2 + (4 + 2\pi + 8\pi k))/2$$

$$x_2 = (2 - (4 + 2\pi + 8\pi k))/2$$

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

$$\sin(x^2/2 - \pi/4 - x) = 0$$

$$x^2/2 - \pi/4 - x = \pi k$$

$$x^2/2 - x = \pi k + \pi/4$$

$$x^2/2 - x - \pi k + \pi/4 = 0$$

$$2x^2 - 4x - 4\pi k + \pi = 0$$

$$D/4 = 4 + 8\pi k + 2\pi$$

$$x_1 = (2 + (4 + 8\pi k + 2\pi))/2$$

$$x_2 = (2 - (4 + 8\pi k + 2\pi))/2$$

КАК произвольный COS превратить в некоторый синус

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

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

Ответ: $(2 + \sqrt{4 + 8\pi k + 2\pi})/2$; $(2 - \sqrt{4 + 8\pi k + 2\pi})/2$; $(2 + \sqrt{4 + 2\pi + 8\pi k})/2$; $(2 - \sqrt{4 + 2\pi + 8\pi k})/2$

$$4 + 8\pi k + 2\pi \geq 0$$

$$8\pi k \geq -4 - 2\pi$$

$$k \geq -1/2\pi - 1/4$$

$$k \geq 0$$