

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

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

$$\sin(x/2) = 1$$

$$\cos 2x = 1$$

$$x/2 = \pi/2 + 2\pi k$$

$$x = \pi + 4\pi k$$

$$2x = 2\pi n$$

$$x = \pi n$$

$$\pi + 4\pi k = \pi n$$

$$1 + 4k = n$$

$$4k - n = -1$$

$$k_0 = 1$$

$$n_0 = 5$$

$$k = 1 - t$$

$$n = 5 - 4t$$

Проверка

$$4 - 4t - 5 + 4t = -1$$

$$\text{Ответ: } x = \pi + 4\pi(1-t)$$