

$$\sin x + \cos 5x = 2$$

$$\sin x = 1$$

$$\cos 5x = 1$$

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

$$x = 2\pi n$$

Решений нет

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

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

$$\sin 2x = 1$$

$$x = \pi + 4\pi k = \pi + 4\pi + 4\pi t = 5\pi + 4\pi t$$

$$x = \pi n$$

$$k = 1 + t$$

$$n = 3 - 4t$$

Ответ: $5\pi + 4\pi t$