

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

$$\sin x + \cos(2x+3x) = 2$$

$$\sin x + \sin 2x \cdot \cos 3x + \sin 3x \cdot \cos 2x = 2$$

$$\sin x = 1$$

$$\cos 5x = 1$$

$$x_1 = \pi/2 + 2\pi k$$

$$5x_2 = 2\pi n$$

$$x_2 = 2\pi n/5$$

$$2\pi n/5 = \pi/2 + 2\pi k$$

$$2n/5 = 1/2 + 2k$$

$$4n = 5 + 20k$$

$$4n - 20k = 5$$

$$\text{НОД} = 4$$

Решений, т.к 5 не / на 4

$$-1 \leq \sin x \leq 1$$

$$-1 \leq \cos 5x \leq 1$$