



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

$$5+4\sin x \cdot \cos x - 5\cos x = 5\sin x$$

$$3+2+4\sin x \cdot \cos x = 5(\cos x + \sin x)$$

$$3+2(1+2\sin x \cdot \cos x) = 5(\cos x + \sin x)$$

$$3+2(\sin^2 x + \cos^2 x + 2\sin x \cdot \cos x) = 5(\cos x + \sin x)$$

$$3+2(\sin x + \cos x)^2 = 5(\cos x + \sin x)$$

$$\cos x + \sin x = z$$

$$3+2z^2 - 5z = 0$$

$$z_1 = 1$$

$$z_2 = 3/2$$

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

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

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

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

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

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

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

$$x = 2\pi k$$

$$x + \pi/4 = \pi - \pi/4 + 2\pi k = 3\pi/4 + 2\pi k$$

$$x = 3\pi/4 + 2\pi k - \pi/4 = 2\pi/4 + 2\pi k = \pi/2 + 2\pi k$$

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

$$\sqrt{2}(\sin(x + \pi/4)) = 3/2$$

$$\sin(x + \pi/4) = 3\sqrt{2}/2$$

Ответ:  $2\pi k; \pi/2 + 2\pi k$