

$$3\sin x \cos x + 4\sin x = 4 - 3\cos^2 x + \cos x$$

$$\sin^2 x + \cos^2 x = 1$$

$$3\sin x \cos x + 4\sin x - 4 + 3\cos^2 x - \cos x = 0$$

$$3\sin x \cos x + 3\sin x - 3\sin^2 x + \sin x - 1 - \cos x = 0$$

$$3\sin x \cos x + 3\sin x - 3\sin^2 x + \sin x - 1 - \cos x = 0$$

$$3\sin x(\cos x + 1 - \sin x) - (\cos x + 1 - \sin x) = 0$$

$$(\cos x + 1 - \sin x)(3\sin x - 1) = 0$$

$$\sin x = \frac{1}{3}$$

$$x = \arcsin \frac{1}{3} + 2Pk$$

$$x = \pi - \arcsin \frac{1}{3} + 2Pk$$

$$\cos x + 1 - \sin x = 0$$

$$\cos x - \sin x = -1$$

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

$$-1 = \sqrt{2} \sin(x - \frac{\pi}{4})$$

$$\sqrt{2} \sin(x - \frac{\pi}{4}) = -1$$

$$x - \frac{\pi}{4} = \frac{3\pi}{4} + 2Pk$$

$$x = \frac{\pi}{2} + 2Pk$$

$$x - \frac{\pi}{4} = \frac{5\pi}{4} + 2Pk$$

$$x = \frac{3\pi}{2} + 2Pk$$

Ответ:

$$x = \arcsin \frac{1}{3} + 2Pk$$

$$x = \pi - \arcsin \frac{1}{3} + 2Pk$$

$$x = \frac{\pi}{2} + 2Pk$$

$$x = \frac{3\pi}{2} + 2Pk$$