

$$\operatorname{tg} x - \operatorname{tg} 2x = \sin x$$

$$\sin x / \cos x - \sin 2x / \cos 2x = \sin x$$

$$(\sin x \cdot \cos 2x - \sin 2x \cdot \cos x) / \cos x \cdot \cos 2x = \sin x$$

$$\sin(-x) / \cos x \cdot \cos 2x = \sin x$$

$$-\sin x / \cos x \cdot \cos 2x - \sin x = 0$$

$$-\sin x (1 / \cos x \cdot \cos 2x + 1) = 0$$

$$\sin x = 0$$

$$x = Pk$$

$$\cos x \cdot \cos 2x = -1$$

-----1 способ-----

$$t \cdot (2t^2 - 1) = -1$$

$$2t^3 - t + 1 = 0$$

$$+ \frac{1}{2} \quad + -1$$

$$2t^2 - 2t + 1 = 0$$

$$D < 0$$

$$t = -1$$

$$\cos x = -1$$

$$x = P + 2Pk$$

Ответ Pk

-----2 способ-----

$$\cos x \cdot \cos 2x = -1$$

$$\cos x = -1 \quad x = P + 2Pk$$

$$\cos 2x = 1 \quad 2x = 2Pk \quad x = Pk$$

$$x = P + 2Pk$$

$$\cos x = 1 \quad x = 2Pk$$

$$\cos 2x = -1 \quad 2x = P + 2Pk \quad x = P/2 + Pk$$

нет решений

-----3 способ-----

$$\cos(x+y) + \cos(x-y) = 2\cos x \cdot \cos y$$