

## РАЗЛИЧНЫЕ МЕТОДЫ РЕШЕНИЯ ТРИГОНОМЕТРИЧЕСКИХ УРАВНЕНИЙ

$$1) \sin 2x = \sin\left(\frac{\pi}{2} - x\right) \quad \left[0; \frac{3\pi}{2}\right]$$

$$2) \sin x = \left|2 \sin \frac{3\pi}{5} \cos \frac{3\pi}{5}\right| \quad (8; 12)$$

$$3) 1 + \cos 2x = 4 \sin x \quad \left[\frac{2\pi}{3}; 3\pi\right]$$

$$4) 5 \sin^2 2x + 8 \cos^3 x = 8 \cos x \quad \left[\frac{3\pi}{2}; 2\pi\right]$$

$$5) \text{Найти область определения функции } f(x) = \frac{\sqrt{40 + 3x - x^2} \cdot \log_5(x^2 - 9)}{2 \sin x - \sqrt{3}}$$

$$6) 2 \operatorname{tg} x - 2 \operatorname{ctg} x - 3 = 0 \quad \left[\frac{\pi}{2}; 2\pi\right]$$

$$7) \sqrt{3} \sin 2x - \cos 2x = \sqrt{3}$$

$$8) 3 \cos^2 x + 4 \sin x = 0$$

$$9) 2 \sin^2 x = \sqrt{3} \sin x \quad (-5; -3)$$

$$10) x^2 + 1 = \cos x$$

$$11) \sin x + \cos x + \sin x \cos x = 1 \quad [-\pi; 2\pi]$$

$$12) 9 \cdot 3^{\sin x} + 2 \cdot 3^{-\sin x} = 6\sqrt{3} \quad \left[-\frac{13\pi}{6}; -\frac{\pi}{6}\right]$$

$$13) \left|\cos x - \frac{1}{2}\right| = \sin x - \frac{1}{2}$$

$$14) \cos 2x + 8 \sin x = 3 \quad [-2\pi; \pi]$$

$$15) \cos \frac{x}{2} = 1 + \cos x \quad \left[-\frac{\pi}{2}; \frac{\pi}{2}\right]$$

$$16) \sin x + \sin 3x = \sqrt{3} \sin 2x$$