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$$2 \sin \frac{x}{3} + \sqrt{3} = 0$$

$$[-\pi + 6k\pi; 4\pi + 6k\pi]$$

$$\sin \frac{x}{3} = -\frac{\sqrt{3}}{2}$$

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

V

$$\frac{x}{3} = \pi - \overbrace{\left(-\frac{\pi}{3}\right)}^{\frac{4}{3}\pi} + 2K\pi$$

$$x = -\pi + 6K\pi$$

V

$$x = 4\pi + 6K\pi$$

81

$$2 \cos x - 2 \cos 45^\circ = 2(\sqrt{2} \sin 60^\circ - \cos x)$$

$$2 \cos x - 2 \frac{\sqrt{2}}{2} = 2 \left(\sqrt{2} \cdot \frac{\sqrt{3}}{2} - \cos x \right)$$

$$2 \cos x - \sqrt{2} = \sqrt{6} - 2 \cos x$$

$$4 \cos x = \sqrt{6} + \sqrt{2}$$

$$\cos x = \frac{\sqrt{6} + \sqrt{2}}{4}$$

$$x = \pm \frac{\pi}{12} + 2K\pi$$

$$(x = \pm 15^\circ + K 360^\circ)$$

70

$$2 \cos x + 2 = \cos x + 2 \sin \frac{\pi}{2}$$

$$\left[\frac{\pi}{2} + k\pi \right]$$

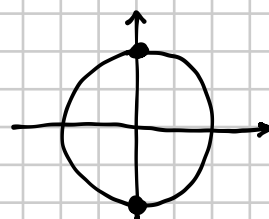
$$2 \cos x - \cos x = -2 + 2$$

$$\cos x = 0$$

$$x = \pm \frac{\pi}{2} + 2K\pi$$

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

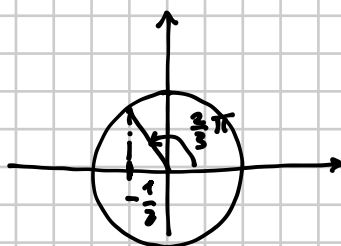
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69

$$2\cos\left(x + \frac{\pi}{6}\right) + 1 = 0 \quad \left[\frac{\pi}{2} + 2k\pi; -\frac{5}{6}\pi + 2k\pi\right]$$

$$\cos\left(x + \frac{\pi}{6}\right) = -\frac{1}{2}$$



$$x + \frac{\pi}{6} = \pm \frac{2}{3}\pi + 2k\pi$$

$$x = \frac{2}{3}\pi - \frac{\pi}{6} + 2k\pi$$

$$x = -\frac{2}{3}\pi - \frac{\pi}{6} + 2k\pi$$

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

$$x = -\frac{5}{6}\pi + 2k\pi$$

119

$$\sin\left(2x + \frac{\pi}{5}\right) = \sin\left(5x + \frac{\pi}{2}\right)$$

$$\left[-\frac{\pi}{10} - \frac{2}{3}k\pi; \frac{3}{70}\pi + \frac{2}{7}k\pi\right]$$

$$\sin \alpha = \sin \beta$$

$$\alpha = \beta + 2k\pi$$

$$\alpha = \pi - \beta + 2k\pi$$

$$2x + \frac{\pi}{5} = 5x + \frac{\pi}{2} + 2k\pi$$

V

$$2x + \frac{\pi}{5} = \pi - \left(5x + \frac{\pi}{2}\right) + 2k\pi$$

$$-3x = \frac{\pi}{2} - \frac{\pi}{5} + 2k\pi$$

V

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

$$-3x = \frac{5\pi - 2\pi}{10} + 2k\pi$$

V

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

$$-3x = \frac{3}{10}\pi + 2k\pi$$

V

$$7x = \frac{5\pi - 2\pi}{10} + 2k\pi$$

$$x = -\frac{\pi}{10} + \frac{2}{3}k\pi$$

V

$$x = \frac{3}{70}\pi + \frac{2}{7}k\pi$$

142

$$\sin\left(2x - \frac{2}{9}\pi\right) = -\cos\left(3x + \frac{5}{3}\pi\right)$$

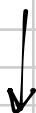
$$\sin(-d) = -\sin d$$

$$\sin\left(-\left(-2x + \frac{2}{9}\pi\right)\right) = -\cos\left(3x + \frac{5}{3}\pi\right)$$

$$-\sin\left(\frac{2}{9}\pi - 2x\right) = -\cos\left(3x + \frac{5}{3}\pi\right)$$

$$\sin\left(\frac{2}{9}\pi - 2x\right) = \cos\left(3x + \frac{5}{3}\pi\right)$$

$$\sin\left(\frac{\pi}{2} - d\right) = \cos d$$



$$\sin\left(\frac{2}{9}\pi - 2x\right) = \sin\left(\frac{\pi}{2} - \left(3x + \frac{5}{3}\pi\right)\right)$$

$$\sin\left(\frac{2}{9}\pi - 2x\right) = \sin\left(\frac{\pi}{2} - 3x - \frac{5}{3}\pi\right)$$

$$\sin\left(\frac{2}{9}\pi - 2x\right) = \sin\left(-\frac{7}{6}\pi - 3x\right)$$

$$\frac{2}{9}\pi - 2x = -\frac{7}{6}\pi - 3x + 2k\pi \quad \vee \quad \frac{2}{9}\pi - 2x = \pi - \left(-\frac{7}{6}\pi - 3x\right) + 2k\pi$$

$$x = -\frac{7}{6}\pi - \frac{2}{9}\pi + 2k\pi \quad \vee \quad \frac{2}{9}\pi - 2x = \pi + \frac{7}{6}\pi + 3x + 2k\pi$$

$$x = \frac{-21-4}{18}\pi + 2k\pi \quad \vee \quad -5x = \pi + \frac{7}{6}\pi - \frac{2}{9}\pi + 2k\pi$$

$$x = -\frac{25}{18}\pi + 2k\pi \quad \vee \quad -5x = \frac{18+21-4}{18}\pi + 2k\pi$$

$$-5x = \frac{35}{18}\pi + 2k\pi$$

$$x = -\frac{25}{18}\pi + 2k\pi \quad \vee \quad x = -\frac{7}{18}\pi + \frac{2}{5}k\pi$$