

$$7/4 * \text{Cos}(x/4) = \text{Cos}^3(x/4) + \text{Sin}(x/2) | * 4$$

$$7 * \text{cos}(x/4) = 4 \text{cos}^3(x/4) + 4 \text{sin}(x/2)$$

$$7 * \text{cos}(x/4) = 4 \text{cos}^3(x/4) + 8 \text{sin}(x/4) * \text{cos}(x/4)$$

$$\text{cos}(x/4) * (4 \text{cos}^2(x/4) + 8 \text{sin}(x/4) - 7) = 0$$

$$\text{cos}(x/4) = 0$$

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

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

$$4 \text{cos}^2(x/4) + 8 \text{sin}(x/4) - 7 = 0$$

$$4(1 - \text{sin}^2(x/4)) + 8 \text{sin}(x/4) - 7 = 0$$

$$4 \text{sin}^2(x/4) - 8 \text{sin}(x/4) + 3 = 0$$

$$\text{sin}(x/4) = x$$

$$4x^2 - 8x + 3 = 0$$

$$D = 16 - 12 = 4$$

$$x_1 = (4 + 2) / 4 = 3/2$$

$$x_2 = (4 - 2) / 4 = 1/2$$

$$\text{sin}(x/4) = 3/2$$

$$\text{sin}(x/4) = 1/2$$

$$x/4 = \pi/6 + 2\pi k$$

$$x/4 = 5\pi/6 + 2\pi k$$

$$x = 2\pi/3 + 8\pi k$$

$$x = 10\pi/3 + 8\pi k$$

Ответ: $2\pi/3 + 8\pi k$; $10\pi/3 + 8\pi k$; $2\pi + 4\pi k$.

