

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

$$7\cos(x/4) = 4\cos^3(x/4) + 4\sin(x/2)$$

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

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

$$\cos(x/4) = 0$$

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

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

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

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

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

$$D = 64 - 48 = 16$$

$$\sin(x/4) = \frac{8 - 4}{8} = \frac{1}{2}$$

$$\sin(x/4) = \frac{8 + 4}{8} = \frac{3}{2} = 1.5 \text{ - ложь}$$

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

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

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

$$x = 20\pi/6 + 8\pi k$$

$$x = 4\pi/6 + 8\pi k$$

Ответ $x = 20\pi/6 + 8\pi k$; $x = 4\pi/6 + 8\pi k$; $2\pi + 4\pi k$