

$$\begin{cases} \sin y = 3 \sin x \\ 2 \cos x + \cos y = 1 \end{cases}$$

$$\begin{aligned} \sin^2 y &= 9 \sin^2 x \\ \cos y &= 1 - 2 \cos x \\ \cos^2 y &= 1 - 4 \cos x + 4 \cos^2 x \\ \cos^2 y + \sin^2 y &= 1 - 4 \cos x + 4 \cos^2 x + 9 \sin^2 x \\ 0 &= -4 \cos x + 5 \sin^2 x + 4 \\ 4 &= 4 \cos x - 5 \sin^2 x \\ -5(1 - \cos^2 x) + 4 \cos x - 4 &= 0 \\ -5 \cos^2 x + 4 \cos x + 9 &= 0 \\ 5 \cos^2 x + 4 \cos x - 9 &= 0 \\ \cos x &= a \\ 5a^2 + 4a - 9 &= 0 \\ D/4 &= 4 + 45 = 7^2 \\ a_1 &= (-2 + 7)/5 = 1 \\ a_2 &= -9/5 < 0 \\ \cos x &= 1 \\ x &= 2Pk \end{aligned}$$

$$\begin{aligned} |\sin y| &= 0 \\ |y| &= P\pi \\ |2 + \cos y| &= 1 \\ |\cos y| &= -1 \\ |y| &= P + 2Pn \end{aligned}$$

Ответ (2Pk; P+Pn)