

$$\begin{aligned}\sin x + \cos y &= 0 \\ \sin^2 x + \cos^2 y &= 1\end{aligned}$$

$$\begin{aligned}\sin x &= a \\ \cos y &= b \\ a+b &= 0 \\ a^2+b^2 &= 0 \\ a &= -b \\ (-b)^2+b^2 &= 1 \\ 2b^2 &= 1 \\ b^2 &= \frac{1}{2}\end{aligned}$$

$$\begin{aligned}b &= \pm\sqrt{\frac{1}{2}} \\ a &= \mp\sqrt{\frac{1}{2}}\end{aligned}$$

$$\begin{aligned}\sin x &= \pm\frac{1}{\sqrt{2}} \\ \cos y &= \pm\frac{1}{\sqrt{2}}\end{aligned}$$

$$\begin{aligned}x &= \frac{5\pi}{4} + 2k\pi \\ x &= \frac{7\pi}{4} + 2k\pi \\ y &= \frac{\pi}{4} + 2n\pi \\ y &= \frac{7\pi}{4} + 2n\pi\end{aligned}$$

$$\begin{aligned}b &= \pm\sqrt{\frac{1}{2}} \\ a &= \mp\sqrt{\frac{1}{2}}\end{aligned}$$

$$\begin{aligned}\sin x &= \pm\frac{1}{\sqrt{2}} \\ \cos y &= \mp\frac{1}{\sqrt{2}}\end{aligned}$$

$$\begin{aligned}x &= \frac{\pi}{4} + 2k\pi \\ x &= \frac{3\pi}{4} + 2k\pi \\ y &= \frac{3\pi}{4} + 2n\pi \\ y &= \frac{5\pi}{4} + 2n\pi\end{aligned}$$

Ответ: $(\frac{5\pi}{4} + 2k\pi; \frac{\pi}{4} + 2n\pi); (\frac{5\pi}{4} + 2k\pi; \frac{7\pi}{4} + 2n\pi); (\frac{7\pi}{4} + 2k\pi; \frac{\pi}{4} + 2n\pi); (\frac{7\pi}{4} + 2k\pi; \frac{7\pi}{4} + 2n\pi); (\frac{\pi}{4} + 2k\pi; \frac{3\pi}{4} + 2n\pi); (\frac{\pi}{4} + 2k\pi; \frac{5\pi}{4} + 2n\pi); (\frac{3\pi}{4} + 2k\pi; \frac{3\pi}{4} + 2n\pi); (\frac{3\pi}{4} + 2k\pi; \frac{5\pi}{4} + 2n\pi)$