Решите систему уравнений: $\begin{cases} x-y=2\pi, \\ \sin x+\cos y=1. \end{cases}$

1) $\left\{\left(\pm\frac{5\pi}{4}+\frac{\pi}{4}+\pi(k+1), \pm\frac{\pi}{4}+\frac{\pi}{4}+2\pi k\right) : k\in\mathbb{Z}\right\}$

2) $\left\{\left(\pm\frac{3\pi}{4}+2\pi k, \pm\frac{\pi}{4}+2\pi k\right) : k\in\mathbb{Z}\right\}$

3) $\left\{\left(\pm\frac{\pi}{4}-\frac{\pi}{4}+2\pi k, \pm\frac{\pi}{4}-\frac{\pi}{4}+2\pi k\right) : k\in\mathbb{Z}\right\}$

4) $\left\{\left(\pm\frac{\pi}{4}+\frac{\pi}{4}+2\pi(k+1), \pm\frac{\pi}{4}+\frac{\pi}{4}+2\pi k\right) : k\in\mathbb{Z}\right\}$