Решите систему неравенств: $\begin{cases} 2\sin 4x - 1 \geqslant 0, \\ 2\cos 4x \leqslant \sqrt{2}. \end{cases}$

1) $\left\{ \left(\frac{\pi}{16} + \frac{\pi n}{2}; \frac{3\pi}{4} + \frac{\pi n}{2} \right) : n \in \mathbb{Z} \right\}$

2) $\left\{ \left[\frac{\pi}{6} + \frac{\pi n}{2}; \frac{5\pi}{24} + \frac{\pi n}{2} \right) : n \in \mathbb{Z} \right\}$

3) $\left\{ \left[\frac{\pi}{16} + \frac{\pi n}{2}; \frac{5\pi}{24} + \frac{\pi n}{2} \right] : n \in \mathbb{Z} \right\}$

4) $\left\{ \left(\frac{\pi}{6} + \frac{\pi n}{2}; \frac{5\pi}{6} + \frac{\pi n}{2} \right) : n \in \mathbb{Z} \right\}$