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

1) $\left[\frac{\pi}{3} + 2\pi n; \frac{5\pi}{4} + 2\pi n\right), \ n \in \mathbb{Z}$ 2) $\left[\frac{\pi}{6} + \pi n; \frac{5\pi}{8} + \pi n\right), \ n \in \mathbb{Z}$ 3) $\left[\frac{\pi}{6} + \pi n; \frac{5\pi}{8} + \pi n\right], \ n \in \mathbb{Z}$

4) $\left(\frac{\pi}{3} + 2\pi n; \frac{5\pi}{4} + 2\pi n\right), \ n \in \mathbb{Z}$ 5) $\left(\frac{\pi}{6} + \pi n; \frac{5\pi}{8} + \pi n\right], \ n \in \mathbb{Z}$