Решите систему неравенств: $\begin{cases} \sin 2x > 0, \\ \cos 2x \leqslant \frac{1}{2}. \end{cases}$

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

2)
$$\left[\frac{\pi}{4} + \pi n; \frac{\pi}{2} + \pi n\right), n \in \mathbb{Z}$$

3)
$$\left(\frac{\pi}{2}+2\pi n;\pi+2\pi n\right),n\in\mathbb{Z}$$

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