

Решите систему неравенств:
$$\begin{cases} 2 \cos \frac{x}{4} + 1 \geq 0, \\ 2 \sin \frac{x}{4} - \sqrt{2} \leq 0. \end{cases}$$

$$1) \left[-\frac{8\pi}{3} + 8\pi n; \pi + 8\pi n \right], n \in \mathbb{Z} \quad 2) \left(\frac{\pi}{3} + 2\pi n; \frac{\pi}{2} + 2\pi n \right], n \in \mathbb{Z}$$

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

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