

1. Решите простейшее тригонометрическое неравенство $\cos \frac{x}{3} < \frac{\sqrt{3}}{2}$.

$$\begin{array}{lll} 1) \bigcup_{k \in \mathbb{Z}} \left[\frac{\pi}{2} + 6\pi k; \frac{11\pi}{2} + 6\pi k \right) & 2) \bigcup_{k \in \mathbb{Z}} \left(\frac{\pi}{2} + 6\pi k; \frac{11\pi}{2} + 6\pi k \right) & 3) \bigcup_{k \in \mathbb{Z}} \left(\frac{\pi}{2} + 2\pi k; \frac{11\pi}{2} + 2\pi k \right) \\ 4) \bigcup_{k \in \mathbb{Z}} \left(\frac{\pi}{2} + \pi k; \frac{11\pi}{2} + \pi k \right) & 5) \bigcup_{k \in \mathbb{Z}} \left(\frac{\pi}{2} + 6\pi k; \frac{11\pi}{2} + 6\pi k \right] & 6) \bigcup_{k \in \mathbb{Z}} \left[\frac{\pi}{2} + 6\pi k; \frac{11\pi}{2} + 6\pi k \right] \end{array}$$

2. Решите простейшее тригонометрическое неравенство $\cos 3x < -\frac{1}{2}$.

$$\begin{array}{lll} 1) \bigcup_{k \in \mathbb{Z}} \left[\frac{2\pi}{9} + \frac{2\pi k}{3}; \frac{4\pi}{9} + \frac{2\pi k}{3} \right). & 2) \bigcup_{k \in \mathbb{Z}} \left(\frac{2\pi}{9} + \frac{2\pi k}{3}; \frac{4\pi}{9} + \frac{2\pi k}{3} \right]. & 3) \bigcup_{k \in \mathbb{Z}} \left(\frac{2\pi}{9} + \frac{\pi k}{3}; \frac{4\pi}{9} + \frac{\pi k}{3} \right). \\ 4) \bigcup_{k \in \mathbb{Z}} \left(\frac{2\pi}{9} + \frac{2\pi k}{3}; \frac{4\pi}{9} + \frac{2\pi k}{3} \right) & 5) \bigcup_{k \in \mathbb{Z}} \left[\frac{2\pi}{9} + \frac{2\pi k}{3}; \frac{4\pi}{9} + \frac{2\pi k}{3} \right]. & 6) \bigcup_{k \in \mathbb{Z}} \left(\frac{2\pi}{9} + \frac{4\pi k}{3}; \frac{4\pi}{9} + \frac{4\pi k}{3} \right). \end{array}$$