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

1) $\bigcup\limits_{k\in\mathbb{Z}}\left[\frac{2\pi}{9}+\frac{2\pi k}{3};\ \frac{4\pi}{9}+\frac{2\pi k}{3}\right)$.

2) $\bigcup\limits_{k\in\mathbb{Z}}\left(\frac{2\pi}{9}+\frac{2\pi k}{3};\ \frac{4\pi}{9}+\frac{2\pi k}{3}\right]$.

3) $\bigcup\limits_{k\in\mathbb{Z}}\left(\frac{2\pi}{9}+\frac{\pi k}{3};\ \frac{4\pi}{9}+\frac{\pi k}{3}\right)$.

4) $\bigcup\limits_{k\in\mathbb{Z}}\left(\frac{2\pi}{9}+\frac{2\pi k}{3};\ \frac{4\pi}{9}+\frac{2\pi k}{3}\right)$

5) $\bigcup\limits_{k\in\mathbb{Z}}\left[\frac{2\pi}{9}+\frac{2\pi k}{3};\ \frac{4\pi}{9}+\frac{2\pi k}{3}\right]$.

6) $\bigcup\limits_{k\in\mathbb{Z}}\left(\frac{2\pi}{9}+\frac{4\pi k}{3};\ \frac{4\pi}{9}+\frac{4\pi k}{3}\right)$.