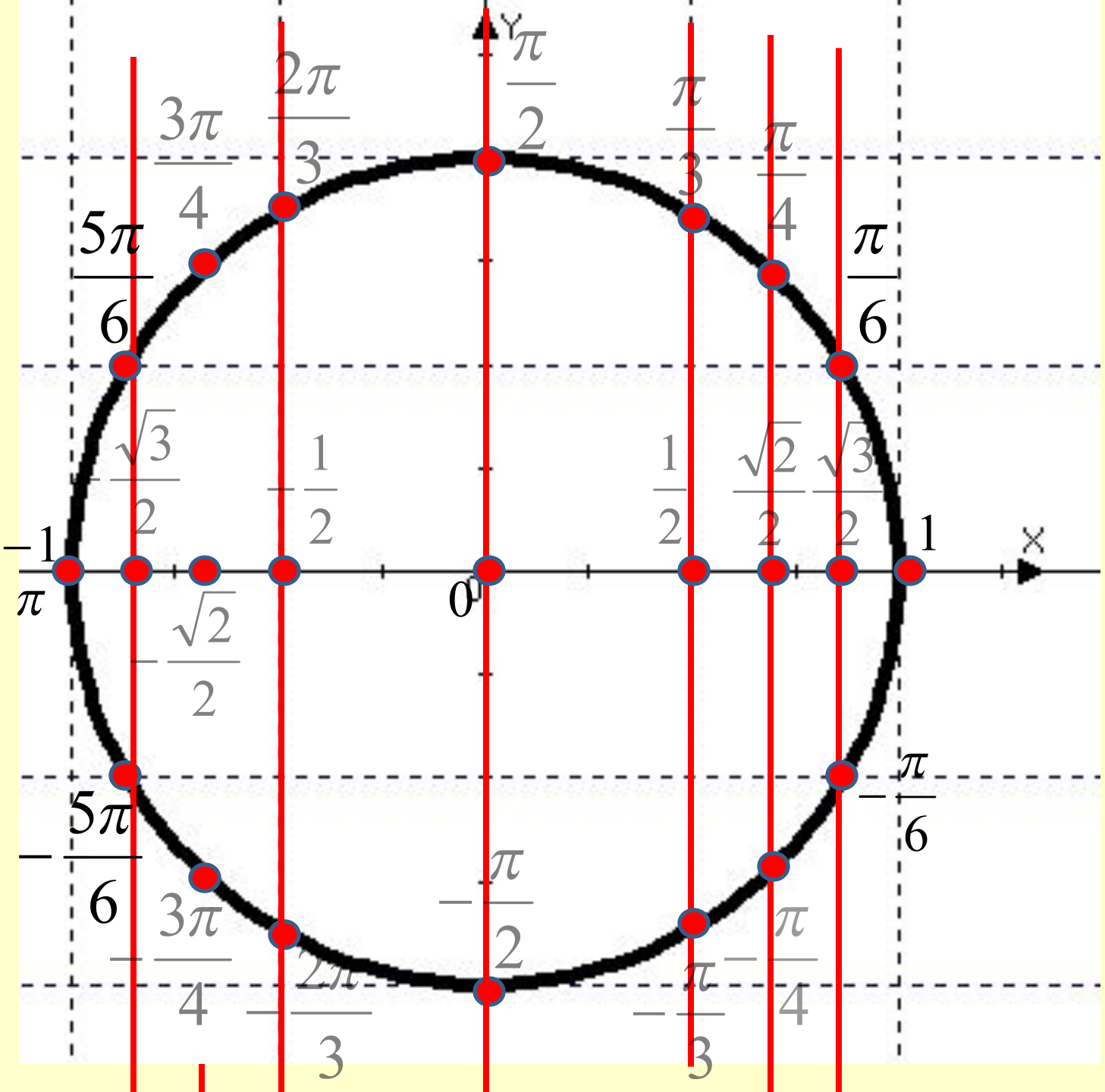
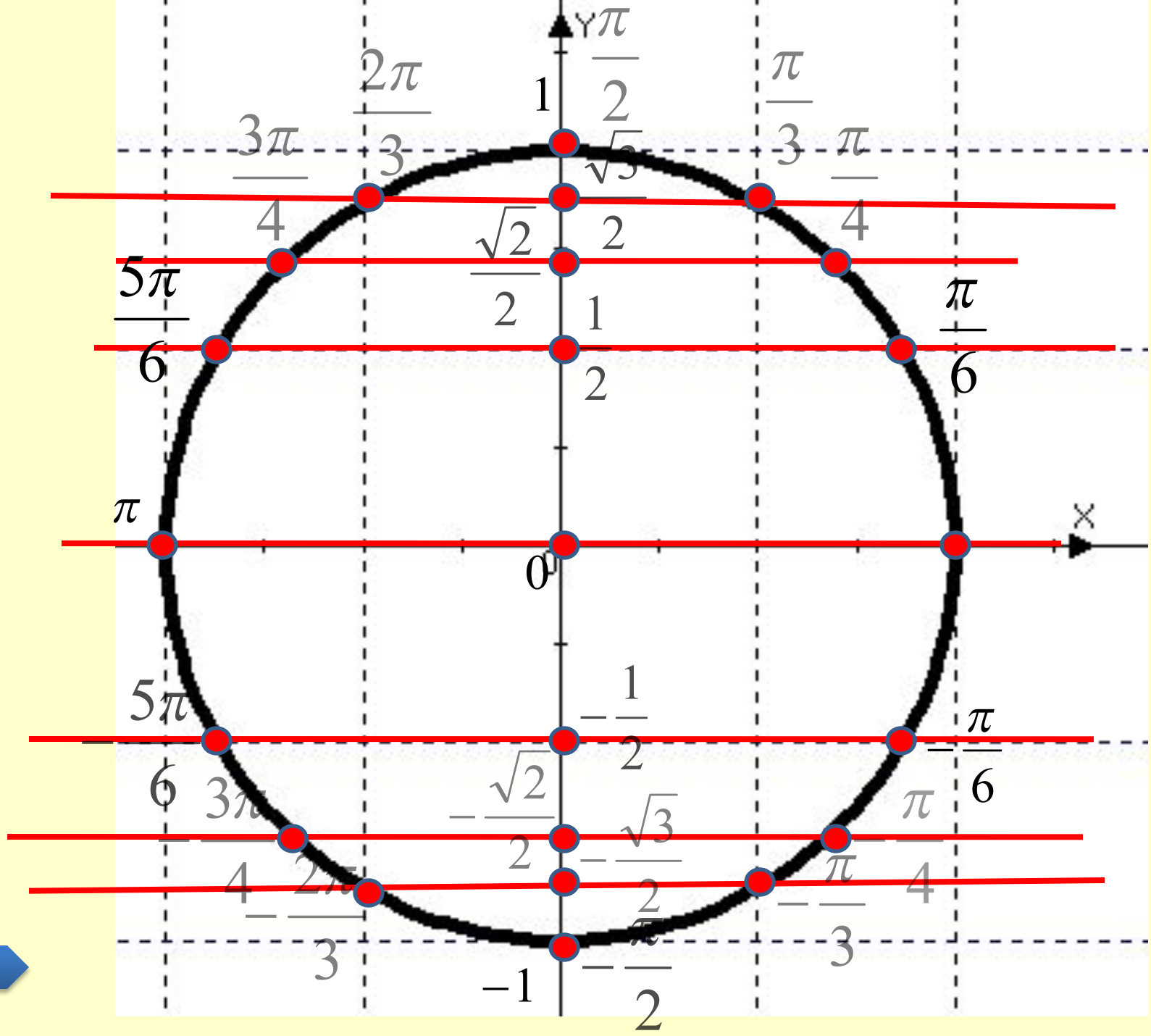
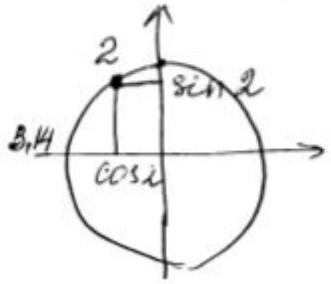
16.11. Синус, косинус, тангенс.


Y
X
$\frac{\pi}{2}$
$\frac{2\pi}{3}$
$\frac{3\pi}{4}$
$\frac{5\pi}{6}$
π
$-\frac{5\pi}{6}$
$-\frac{3\pi}{4}$
$-\frac{2\pi}{3}$
$-\frac{\pi}{2}$
$\frac{\pi}{3}$
$\frac{\pi}{4}$
$\frac{\pi}{6}$
0
$-\frac{\pi}{6}$
$-\frac{\pi}{4}$
$-\frac{\pi}{3}$
$\frac{\sqrt{3}}{2}$
$\frac{1}{2}$
$-\frac{\sqrt{2}}{2}$
$-\frac{1}{2}$
$\frac{\sqrt{2}}{2}$
$\frac{\sqrt{3}}{2}$
-1
1


Y
X
0
1
−1
π/2
2π/3
π/3
3π/4
π/4
5π/6
π/6
π
√3/2
√2/2
1/2
−1/2
−√2/2
−√3/2
−π/2
−2π/3
−3π/4
−π/3
−5π/6
−π/6

Сравните

$a = \sin 2$ и $b = \cos 2$



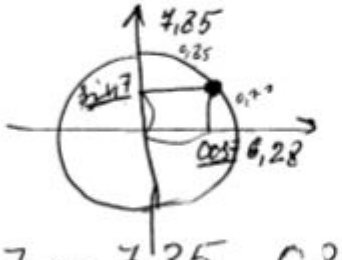
$\sin 2 > 0$

$\cos 2 < 0$

$\sin 2 > \cos 2$

$a > b$.

$a = \sin 7$; $b = \cos 7$



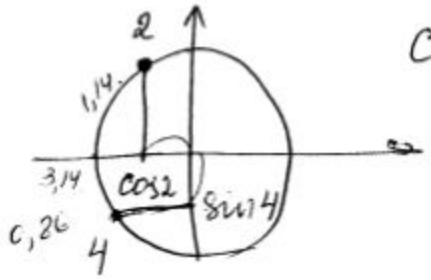
$\cos 7 > \sin 7$

$b > a$

от 7 до 7,85 0,85

от 6,28 до 7 0,72

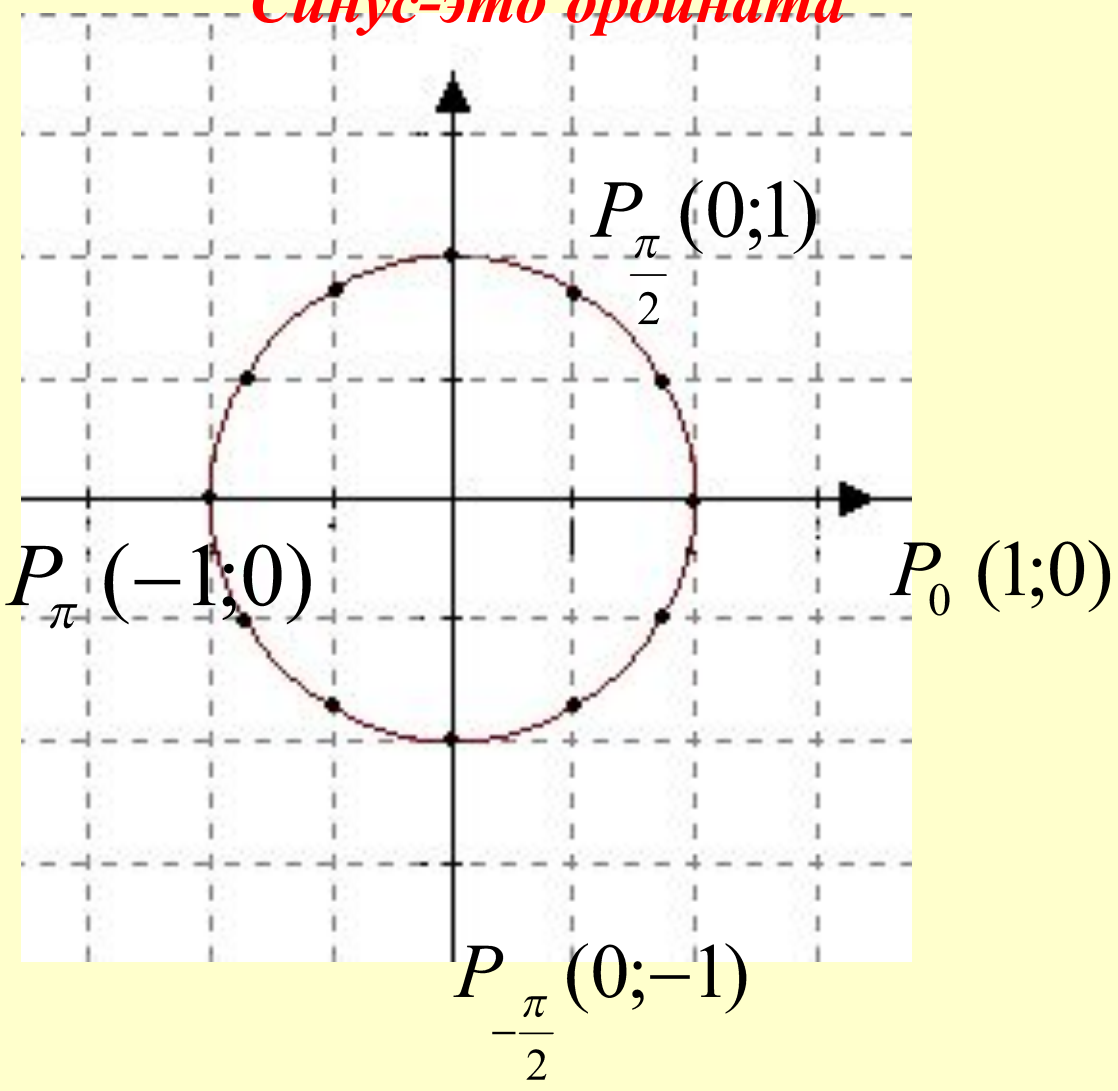
$a = \sin 4$ $b = \cos 2$



$\cos 2 > \sin 4$

$\Rightarrow b > a$

Синус-это ордината



$$\sin x = 1$$

$$x = \frac{\pi}{2} + 2\pi n$$

где n-целое

$$\sin x = -1$$

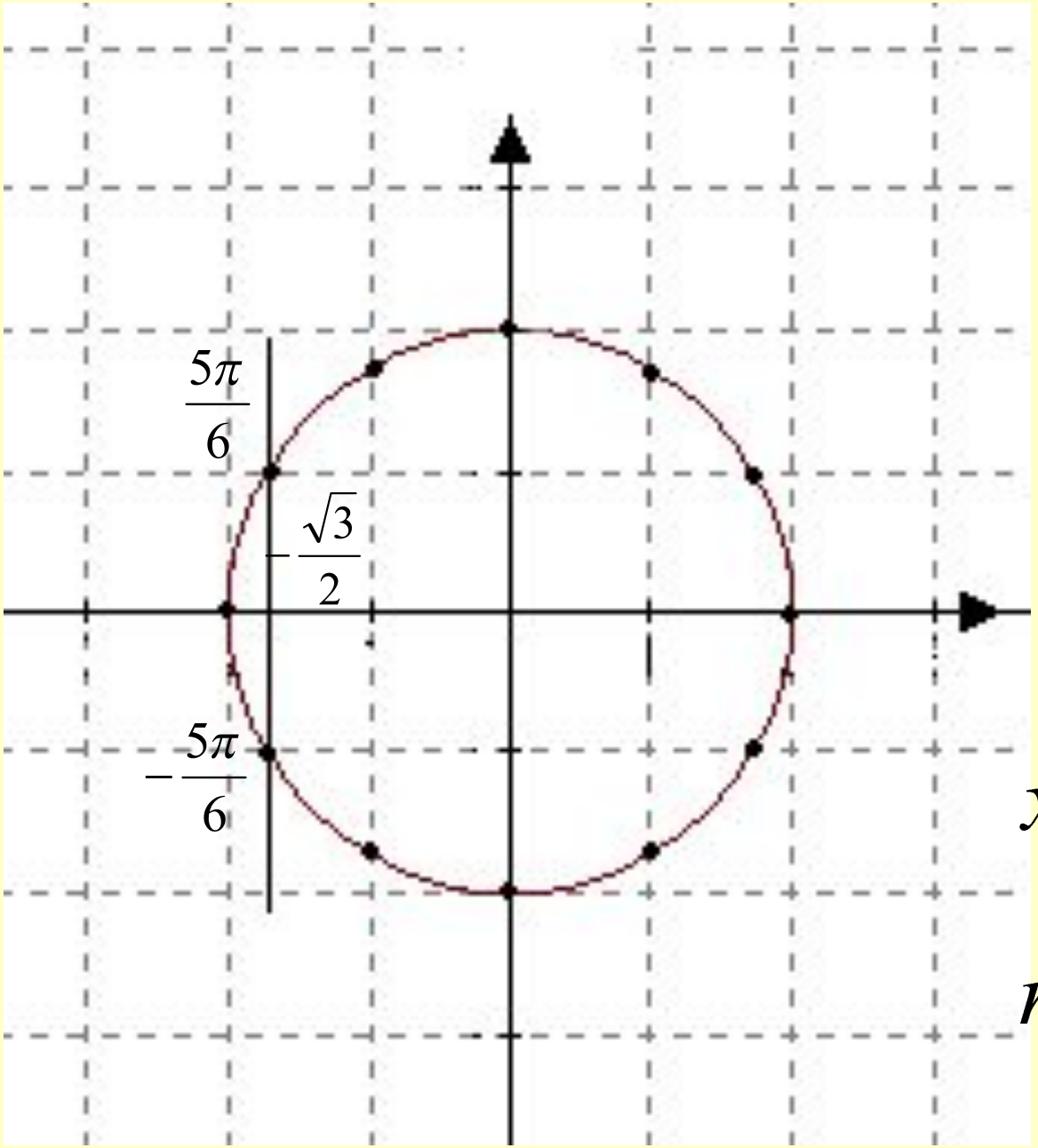
$$x = -\frac{\pi}{2} + 2\pi n$$

где n-целое

$$\sin x = 0$$

$$x = \pi n$$

где n-целое

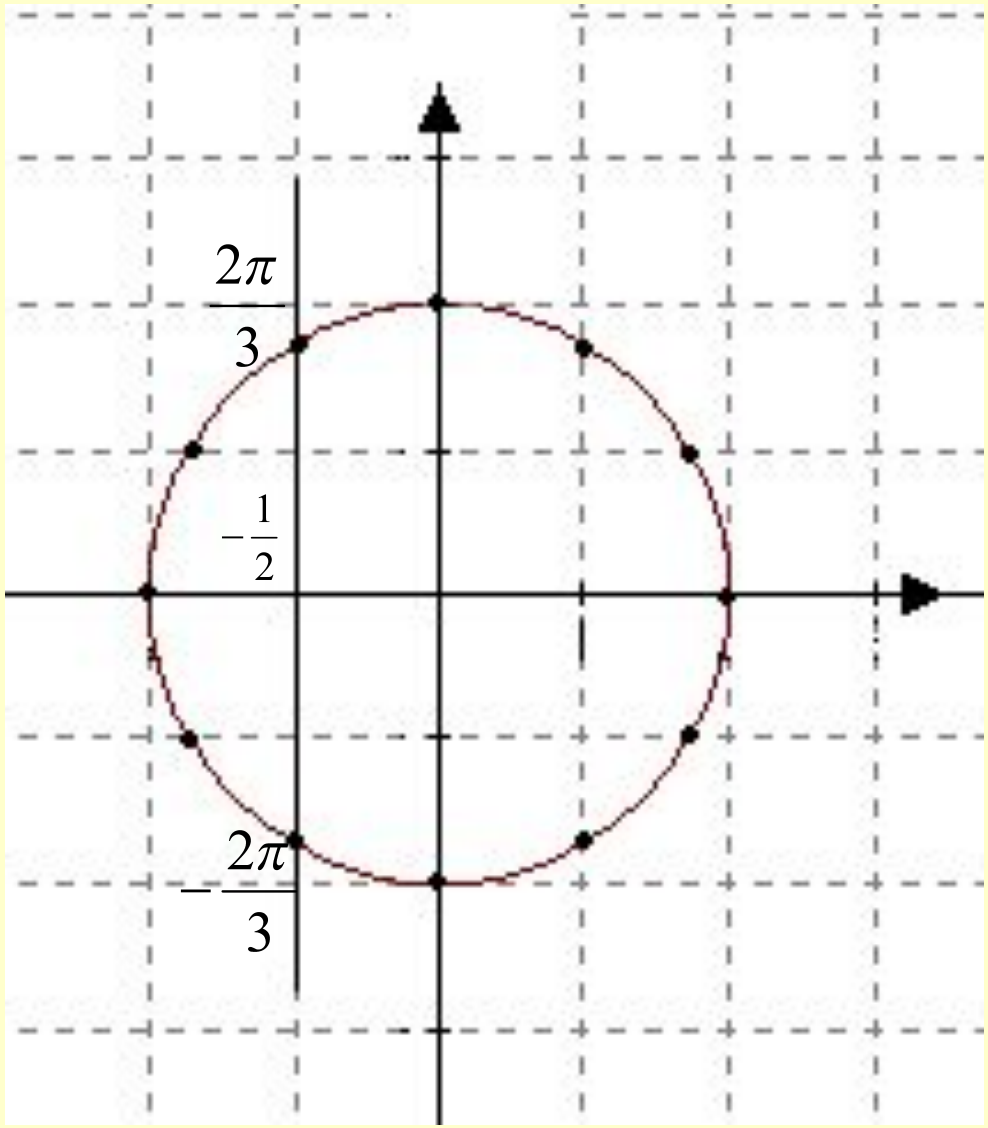


$$\cos x = -\frac{\sqrt{3}}{2}$$

$$x = \pm\frac{5\pi}{6} + 2\pi n,$$

$$n \in Z.$$

Косинус-это абсцисса

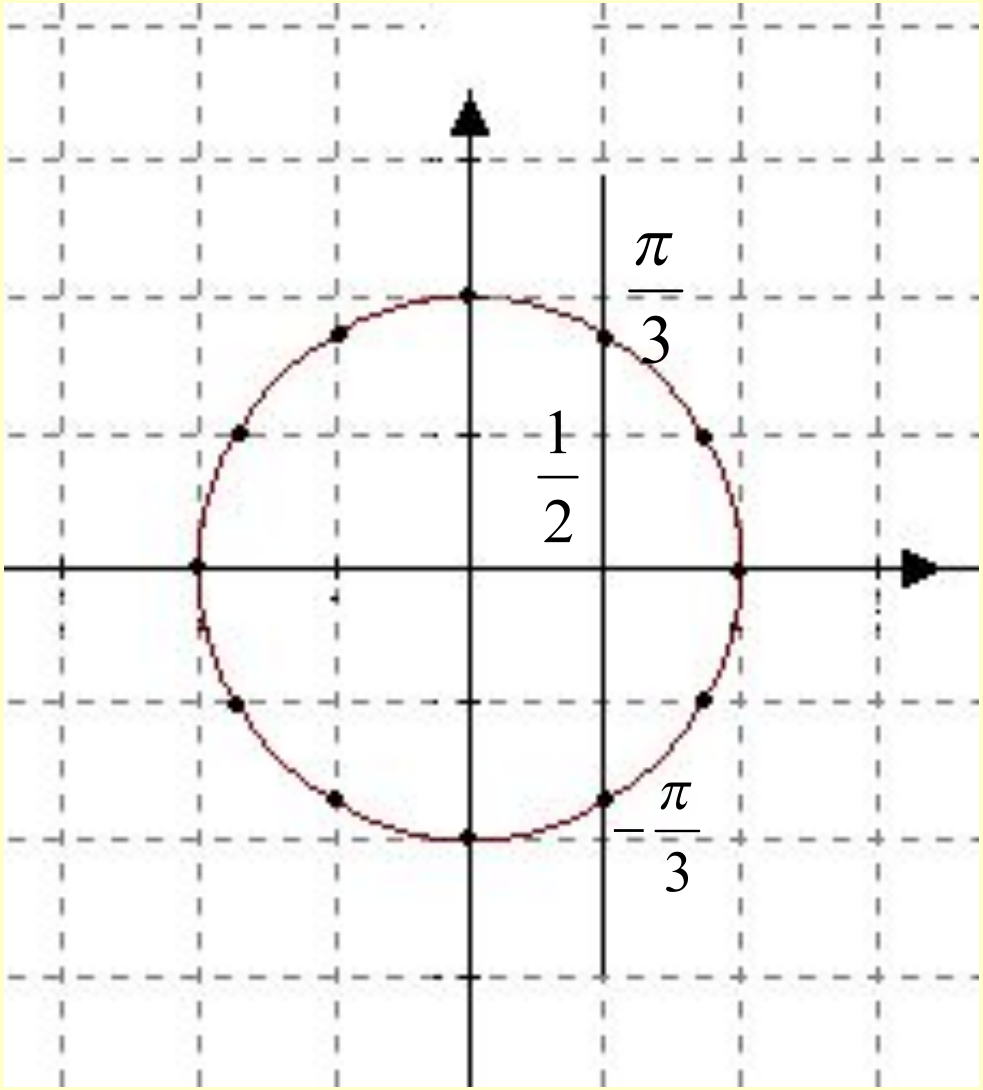


$$\cos x = -\frac{1}{2}$$

$$x = \pm\frac{2\pi}{3} + 2\pi n,$$

$$n \in Z.$$

Косинус-это абсцисса

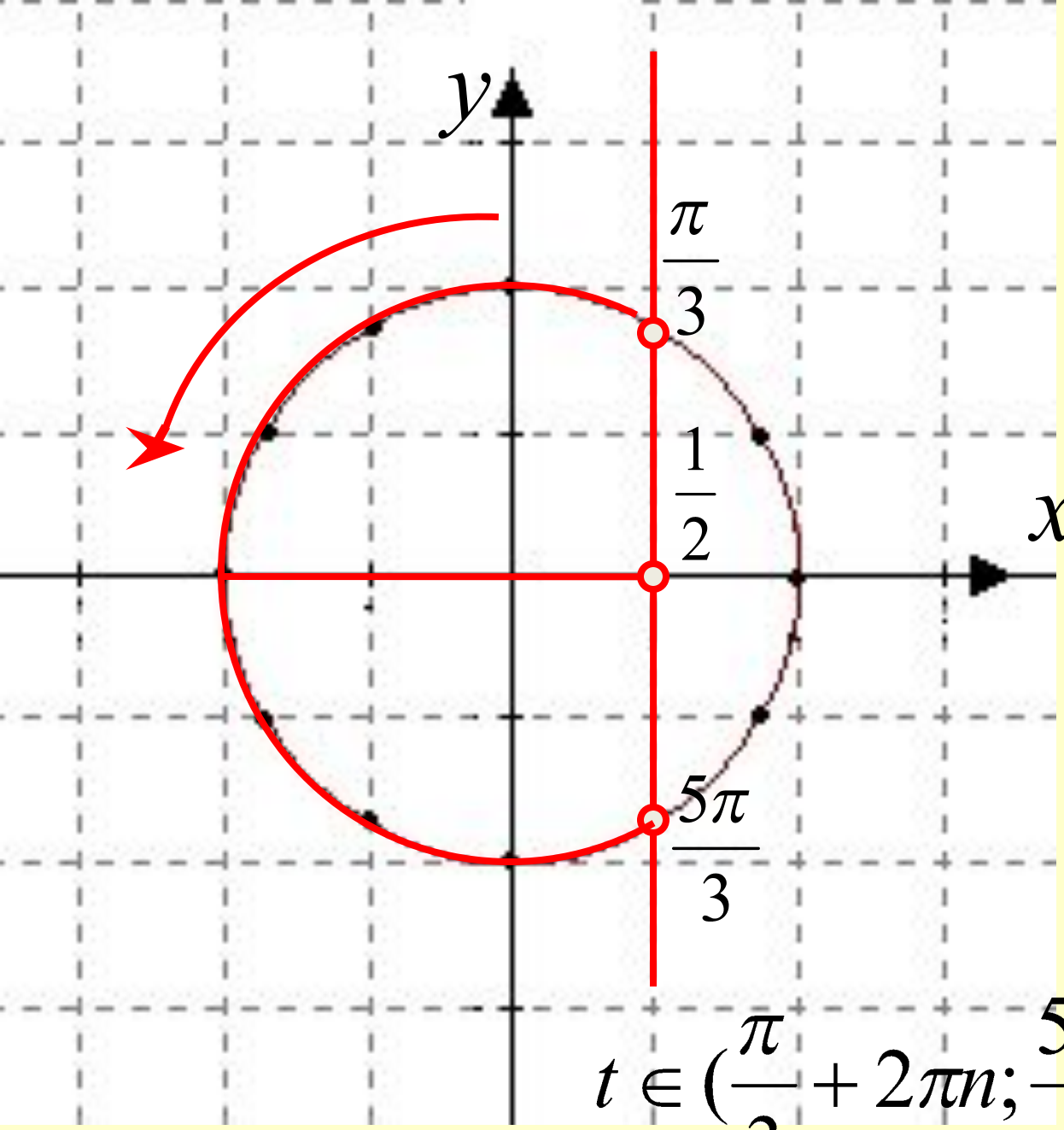


$$\cos x = \frac{1}{2}$$

$$x = \pm\frac{\pi}{3} + 2\pi n,$$

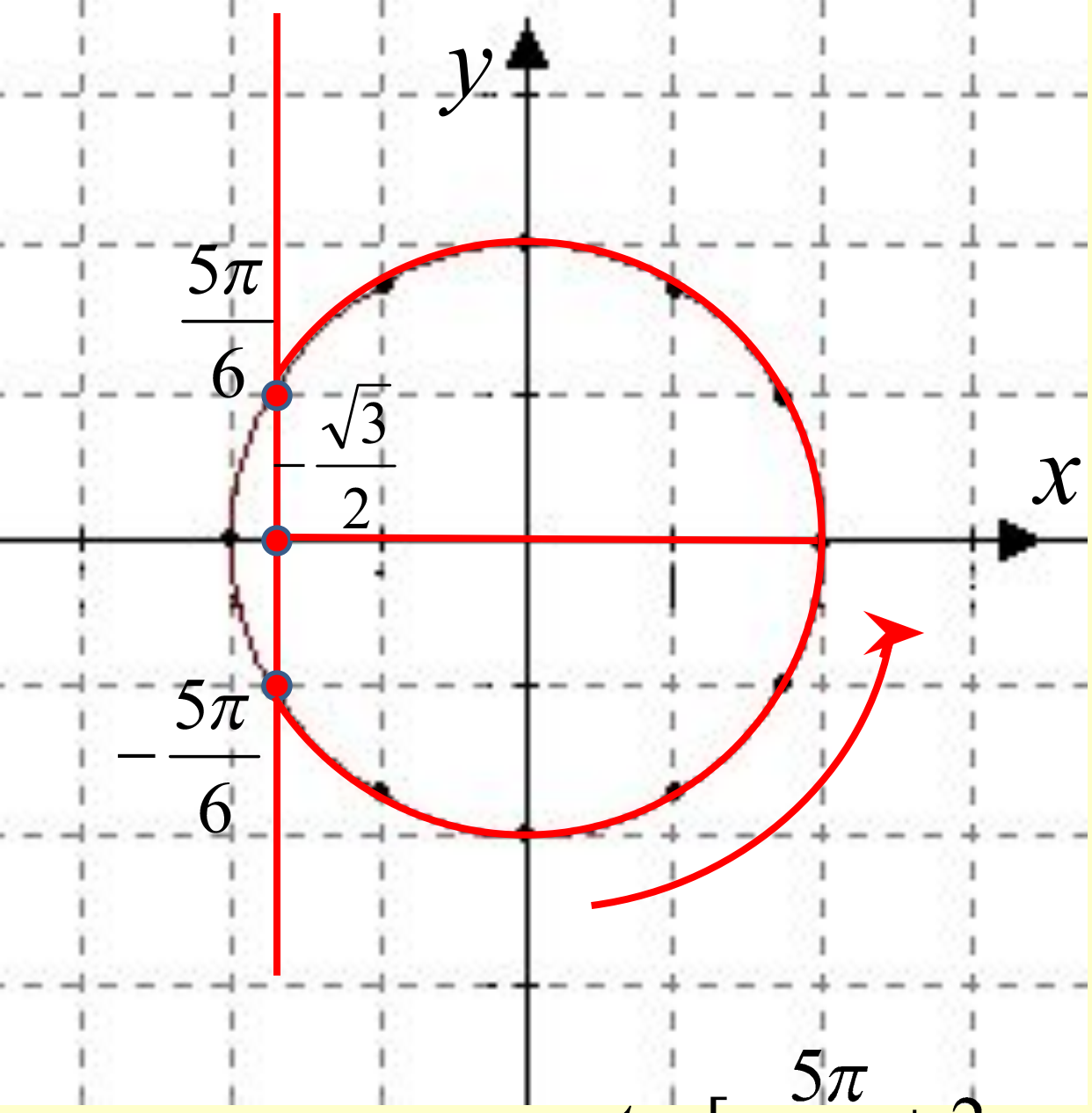
$$n \in Z.$$

Решение тригонометрических неравенств



$$\cos t < \frac{1}{2}$$

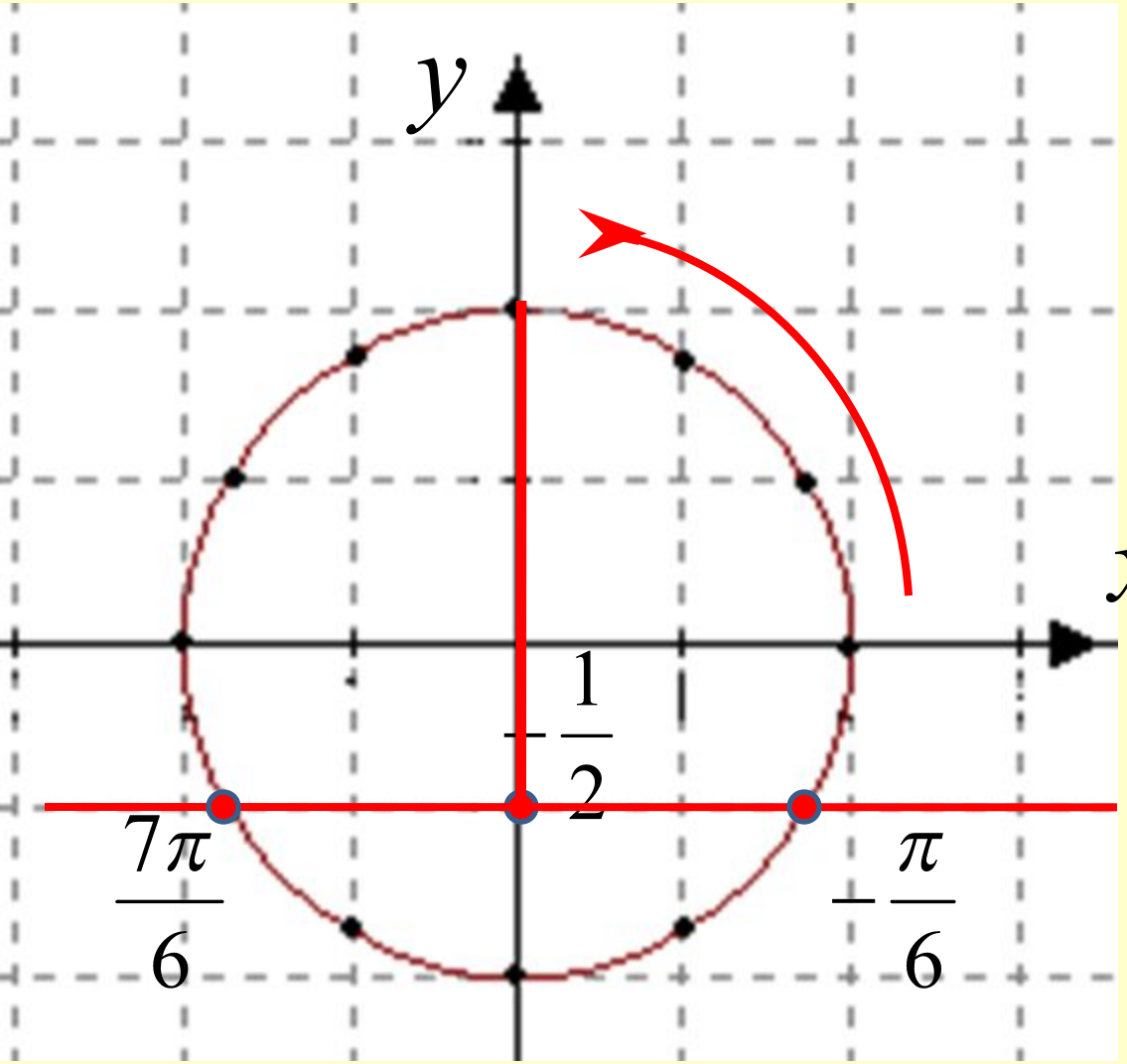
$$t \in \left(\frac{\pi}{3} + 2\pi n; \frac{5\pi}{3} + 2\pi n\right), n \in Z.$$



$$1 \quad 2$$

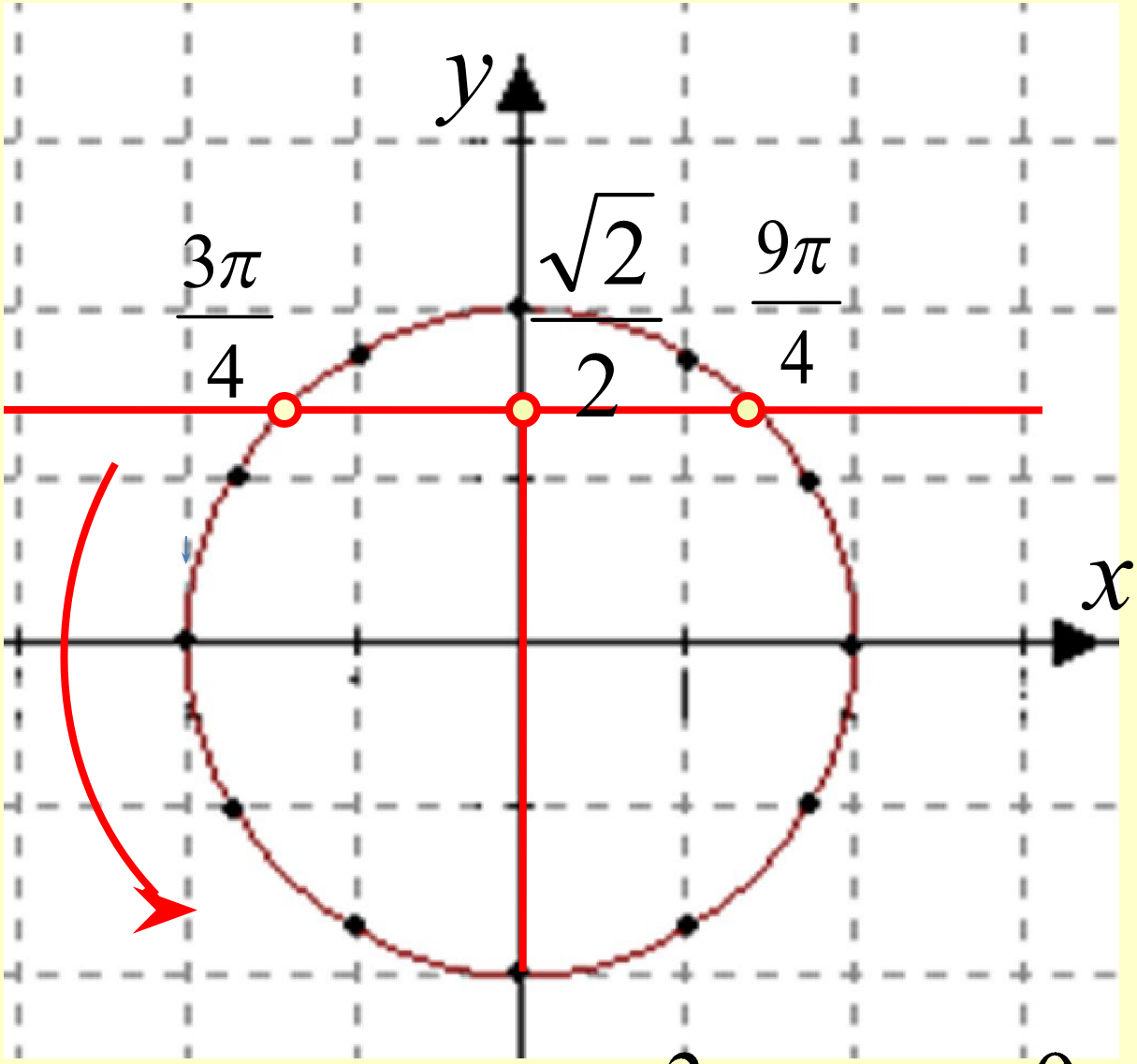
$$\cos t \geq -\frac{\sqrt{3}}{2}$$

$$t \in [-\frac{5\pi}{6} + 2\pi n; \frac{5\pi}{6} + 2\pi n], n \in Z.$$



$$\sin t \geq -\frac{1}{2}$$

$$t \in [-\frac{\pi}{6} + 2\pi n; \frac{7\pi}{6} + 2\pi n], n \in Z.$$



1 4

$$\sin t < \frac{\sqrt{2}}{2}$$

$$t \in (\frac{3\pi}{4} + 2\pi n; \frac{9\pi}{4} + 2\pi n), n \in Z.$$

Домашнее задание:
6.16-6.17
6.43-6.45. к среде ,
выслать учителю
самостоятельную
работу из тэш, сегодня.