Решение тригонометрических неравенств

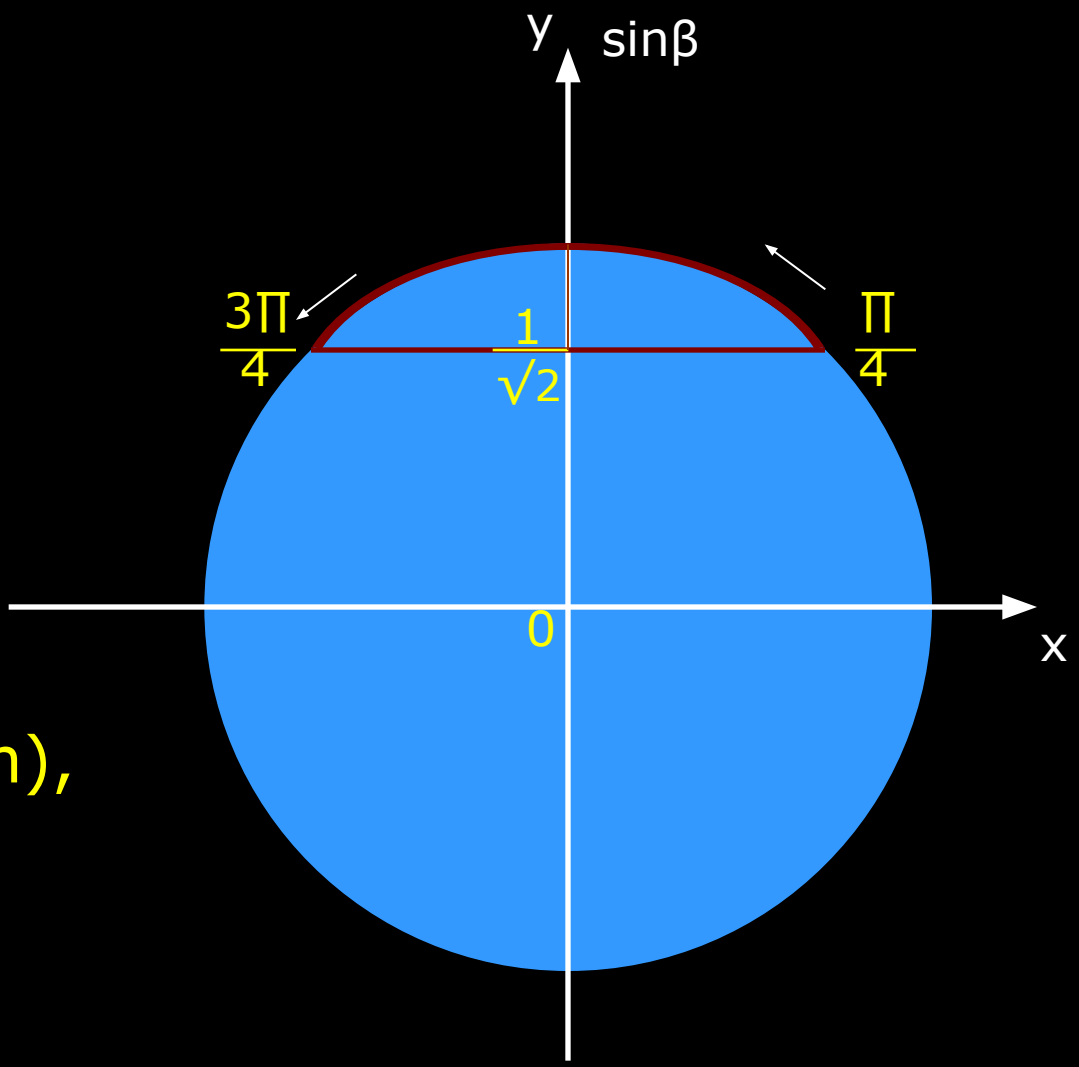
$\sin X > 1/\sqrt{2}$

$\pi/4 < x < 3\pi/4$

$\pi/4 + 2\pi n < X < 3\pi/4 + 2\pi n$

$(\pi/4 + 2\pi n;\ 3\pi/4 + 2\pi n),$

$n \in Z$

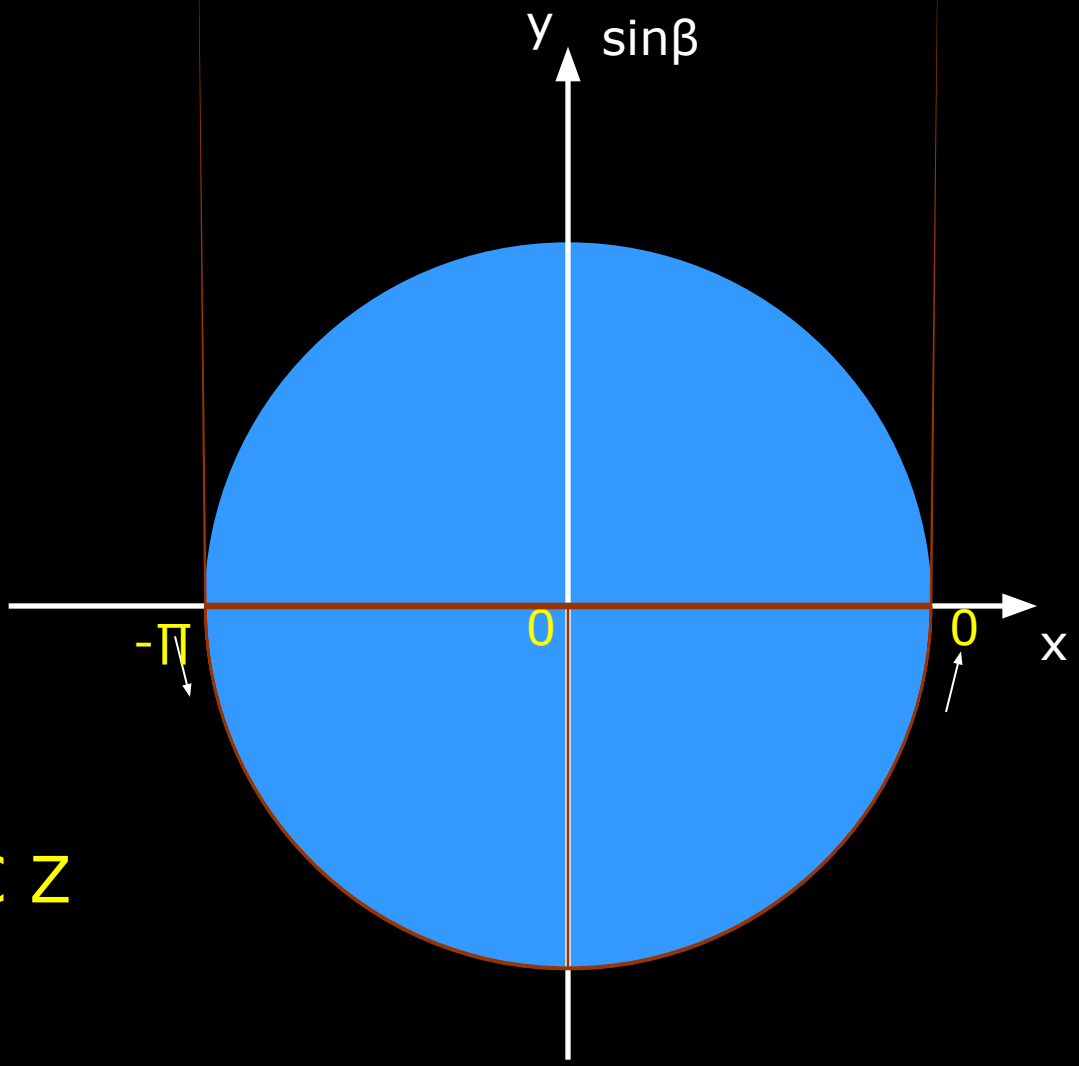


$\sin X < 0$

$-\pi < X < 0$

$-\pi+2\pi n < X < 2\pi n$

$(-\pi+2\pi n;\ 2\pi n),\ n \in Z$



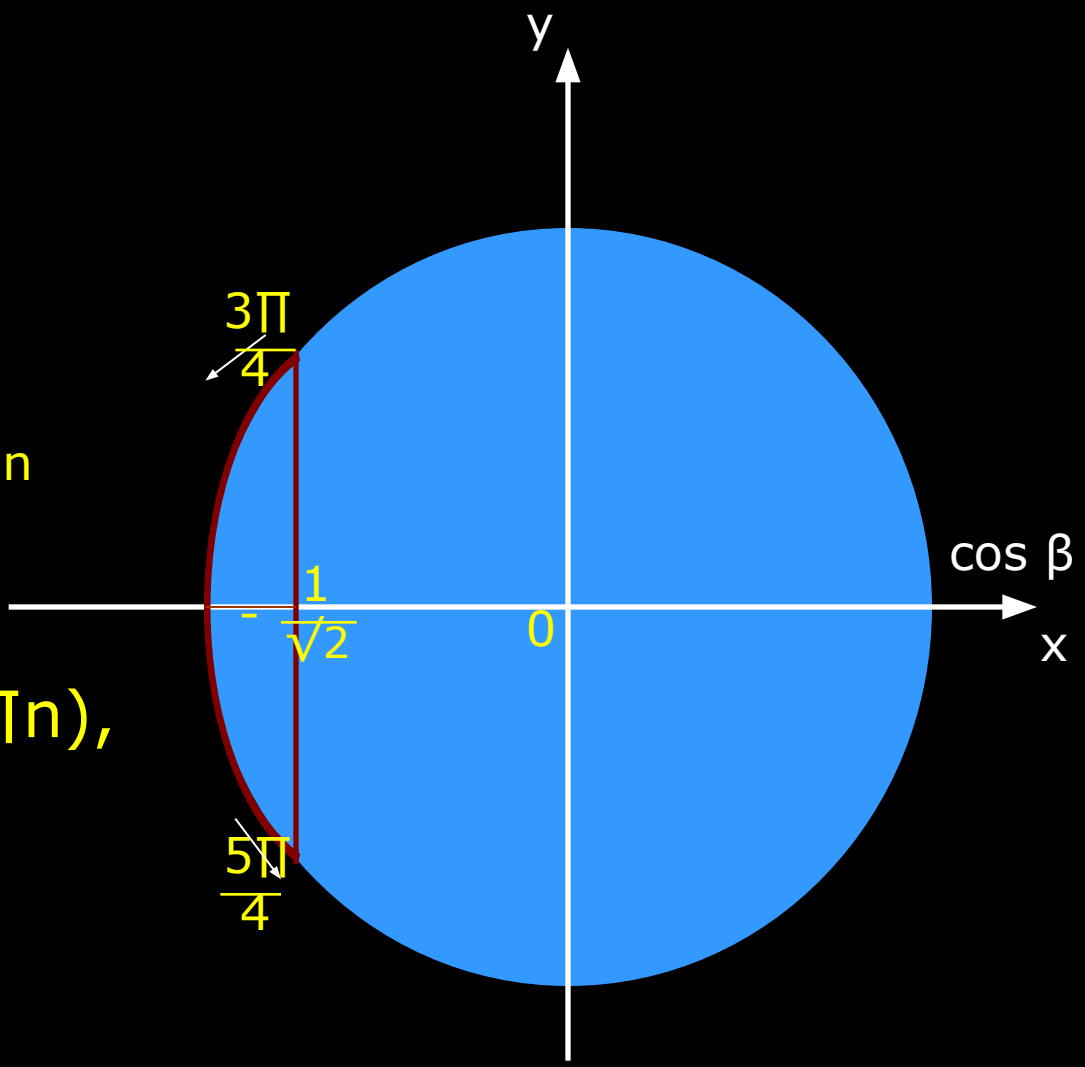
$\cos X < -1/\sqrt{2}$

$3\pi/4 < x < 5\pi/4$

$3\pi/4 + 2\pi n < X < 5\pi/4 + 2\pi n$

$(3\pi/4 + 2\pi n;\ 5\pi/4 + 2\pi n),$

$n \in Z$

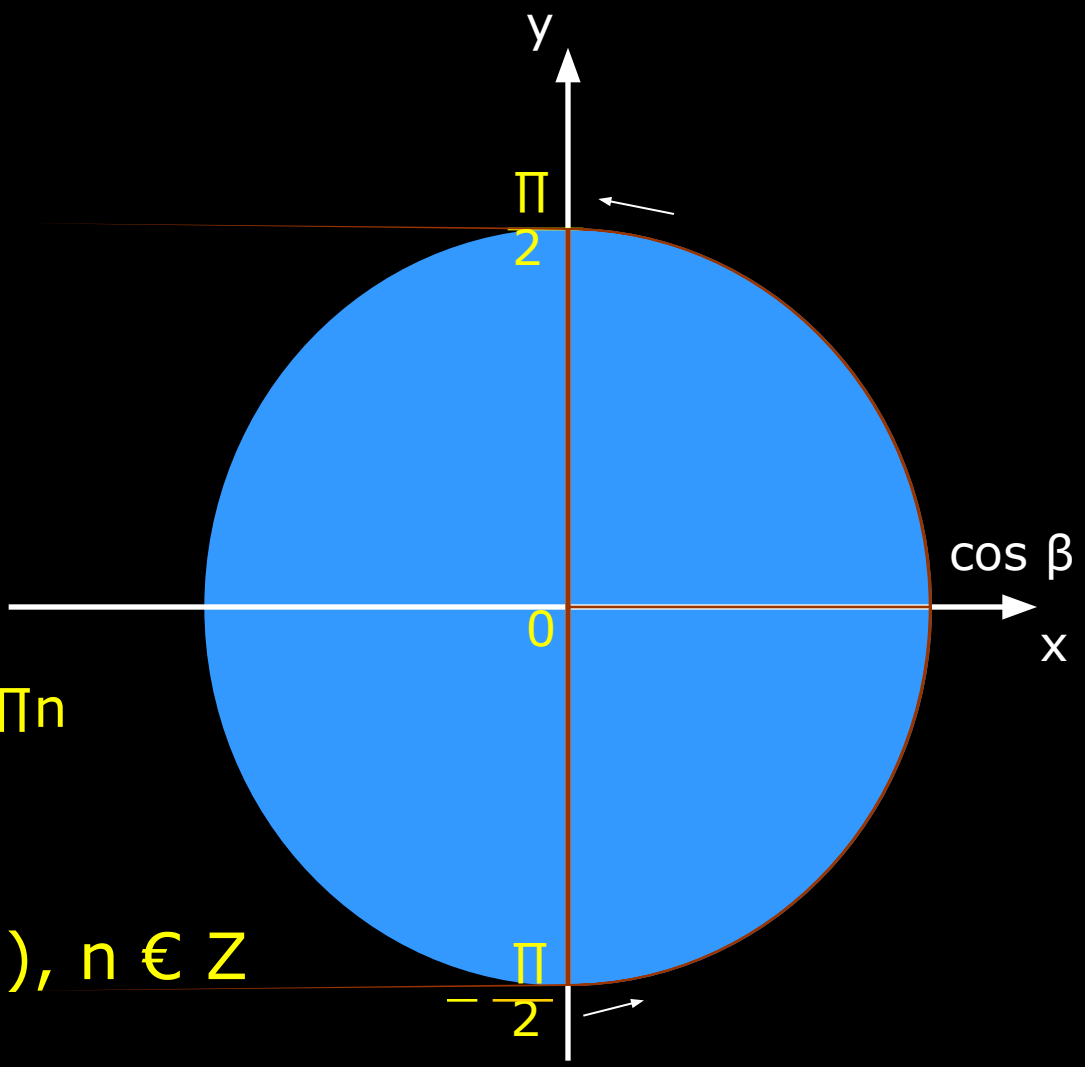


cos X >0

$-\pi/2 < X < \pi/2$

$-\pi/2+2\pi n < X < \pi/2+2\pi n$

$(-\pi/2+2\pi n;\pi/2+2\pi n),\ n \in Z$

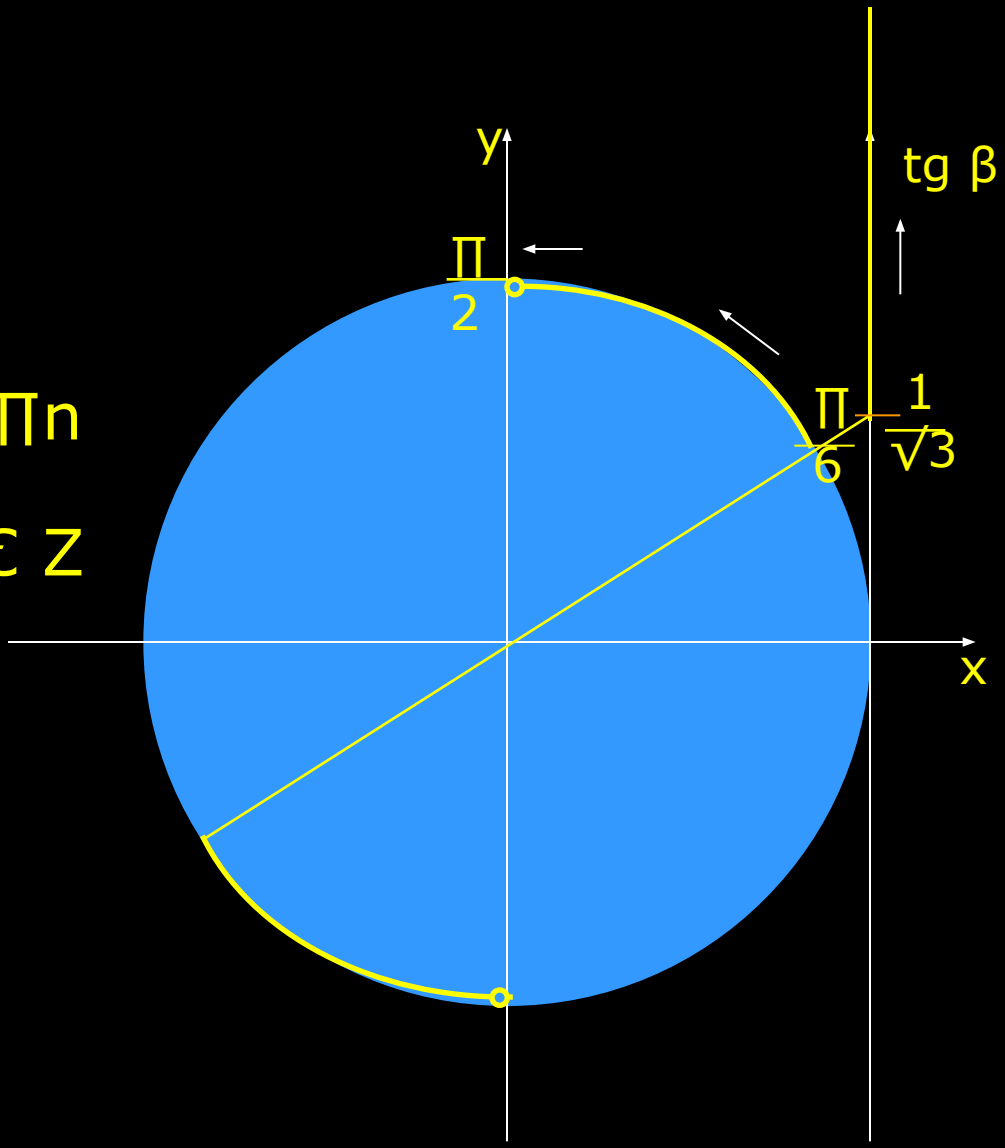


$tg\ X \geq 1/\sqrt{3}$

$\pi / 6 \leq x < \pi / 2$

$\pi/6+\pi n \leq x < \pi/2+\pi n$

$[\pi/6+\pi n;\ \pi/2+\pi n), n \in Z$

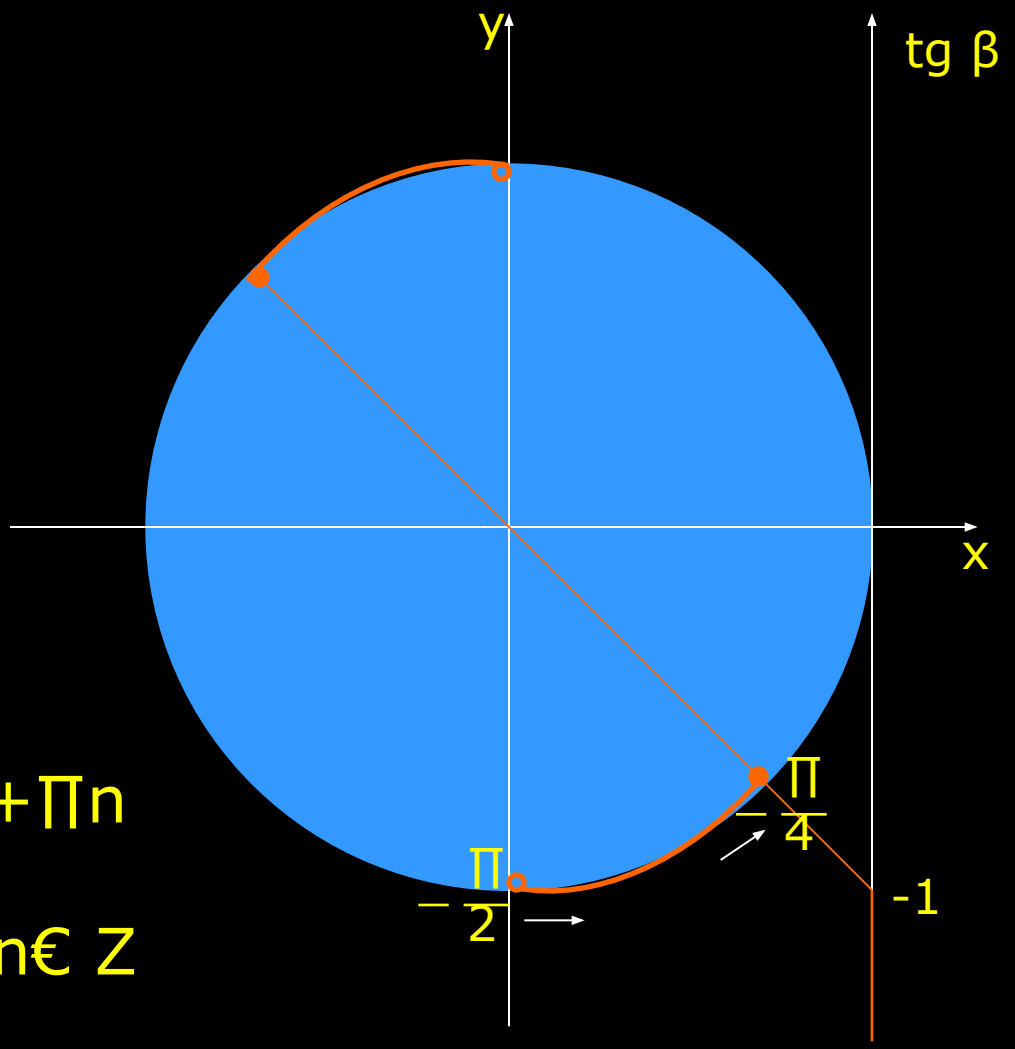


tg X ≤ -1

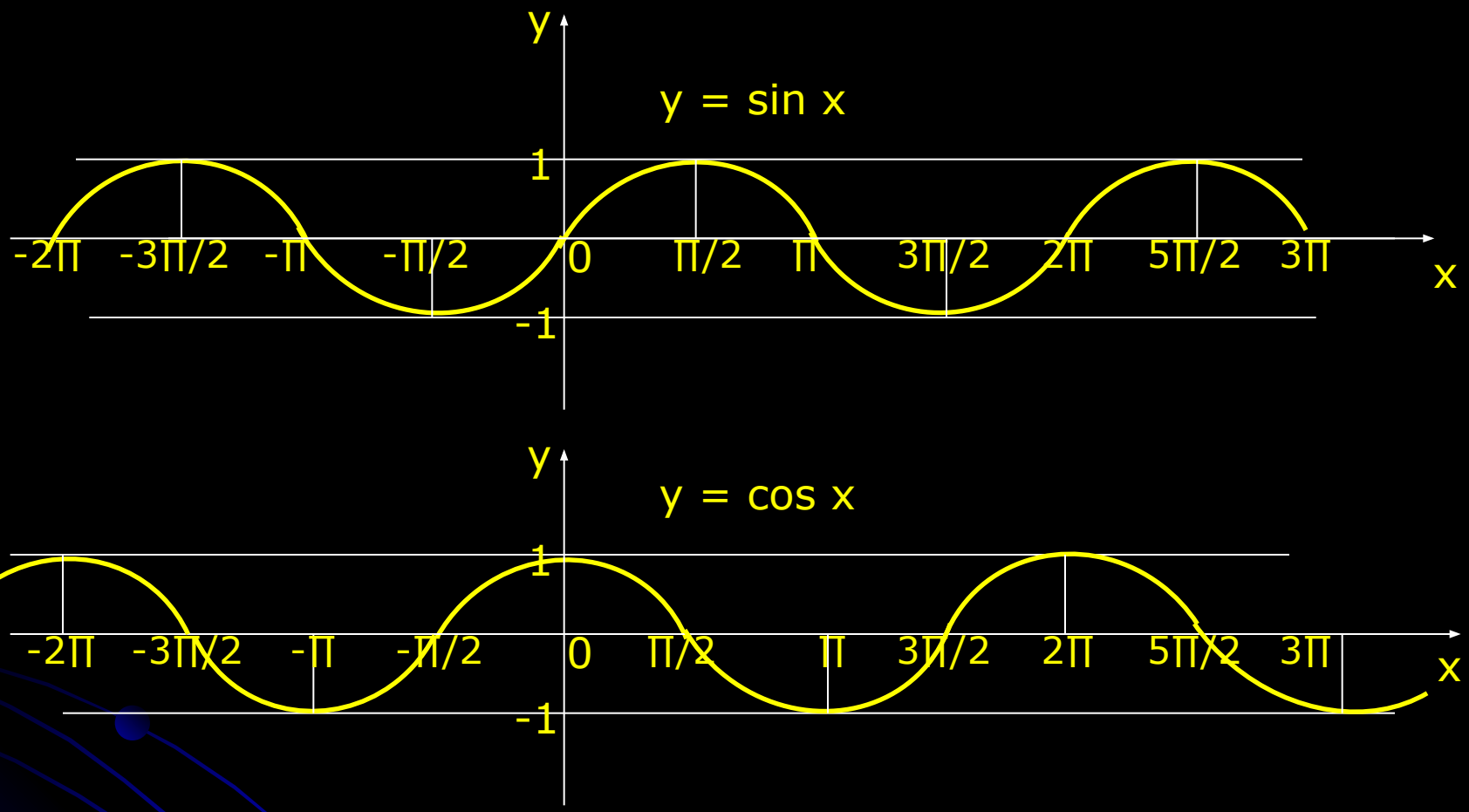
$-\pi/2 < x \leq -\pi/4$

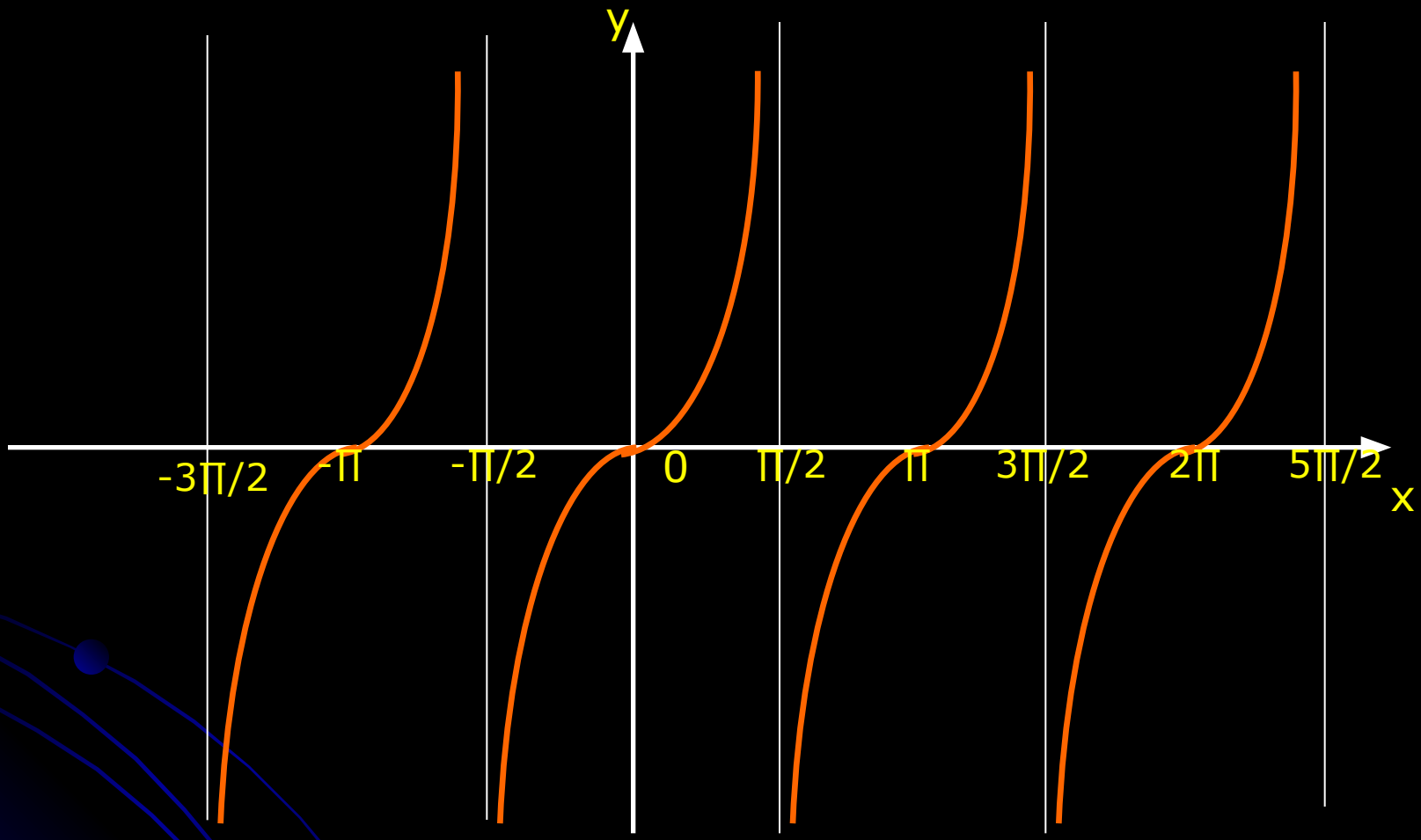
$-\pi/2+\pi n < x \leq -\pi/4+\pi n$

$(-\pi/2+\pi n;-\pi/4+\pi n], n \in Z$

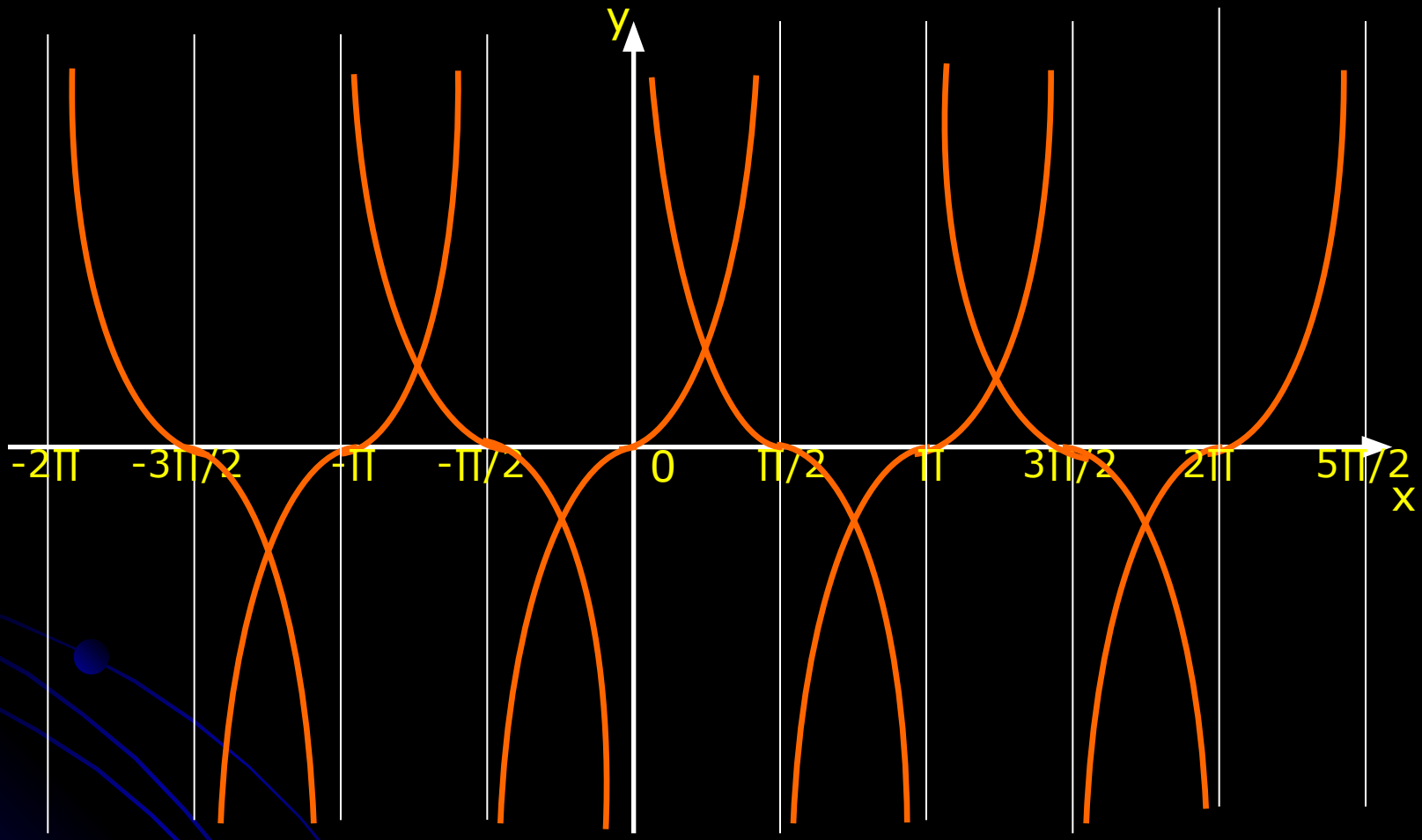


Графики тригонометрических функций


y
y = sin x
1
-1
-2π
-3π/2
-π
-π/2
0
π/2
π
3π/2
2π
5π/2
3π
x
y
y = cos x
1
-1
-2π
-3π/2
-π
-π/2
0
π/2
π
3π/2
2π
5π/2
3π
x

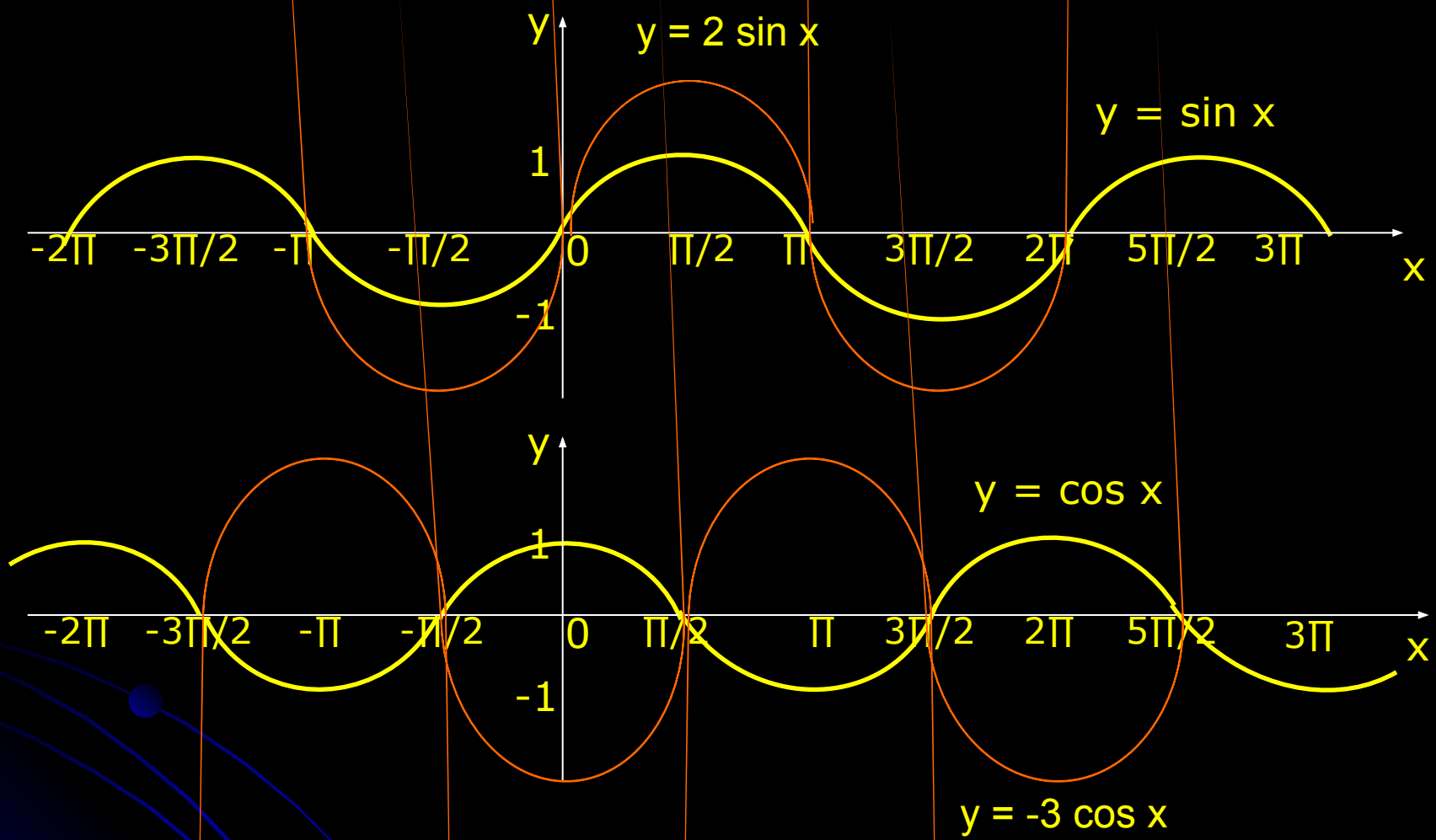


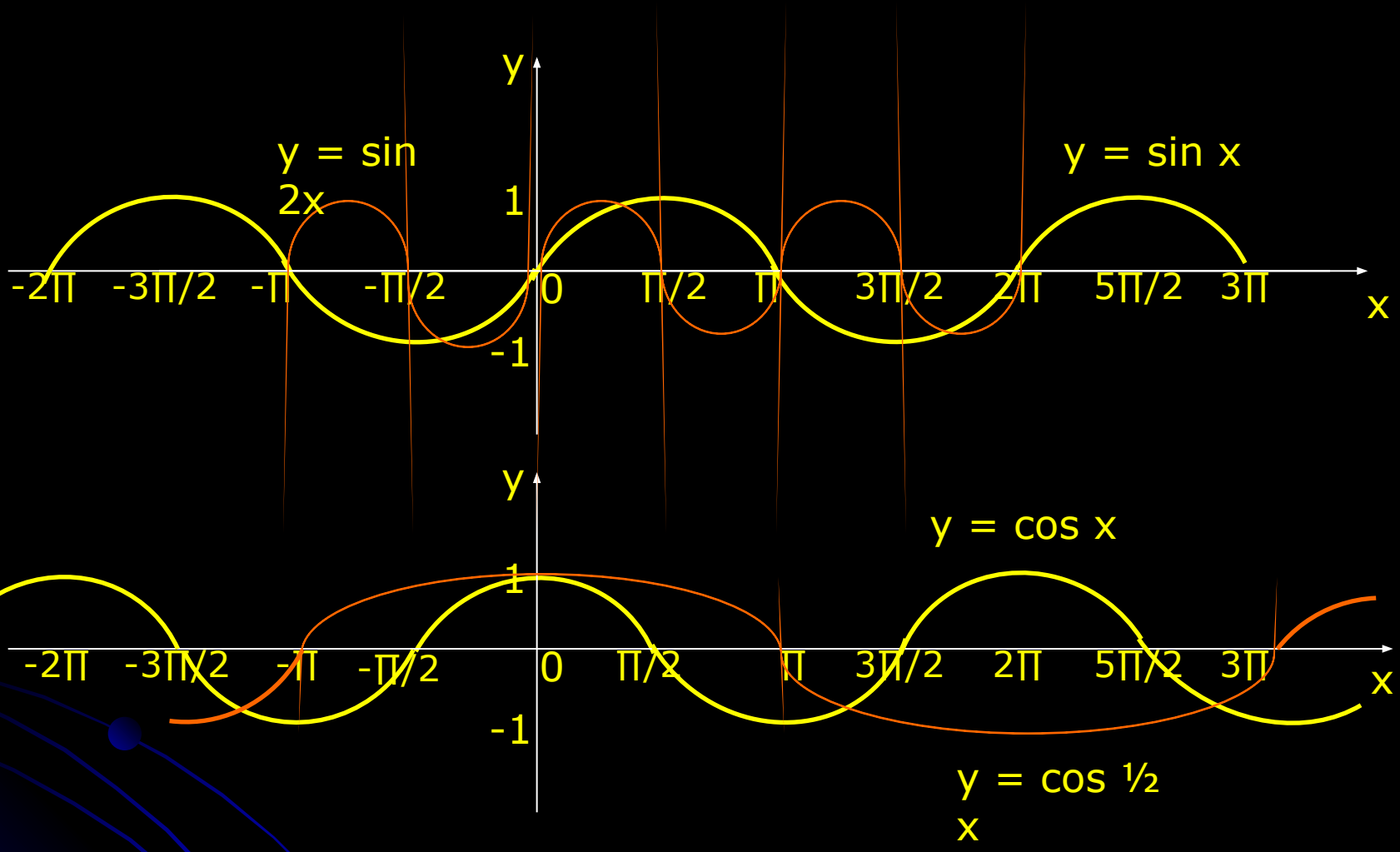
y = tg x



y = ctg x

Преобразования графиков


y
y = 2 sin x
y = sin x
1
-1
-2π
-3π/2
-π
-π/2
0
π/2
π
3π/2
2π
5π/2
3π
x
y
y = cos x
1
-1
-2π
-3π/2
-π
-π/2
0
π/2
π
3π/2
2π
5π/2
3π
x
y = -3 cos x


y
y = sin 2x
y = sin x
1
-1
-2π
-3π/2
-π
-π/2
0
π/2
π
3π/2
2π
5π/2
3π
x
y
y = cos x
1
-1
-2π
-3π/2
-π
-π/2
0
π/2
π
3π/2
2π
5π/2
3π
x
y = cos ½ x