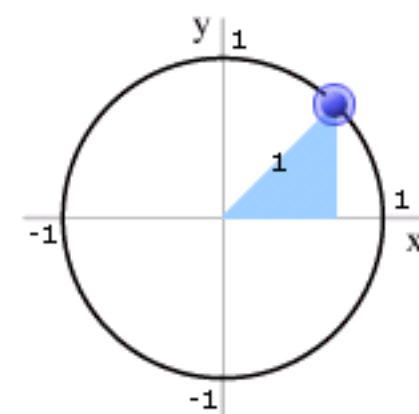
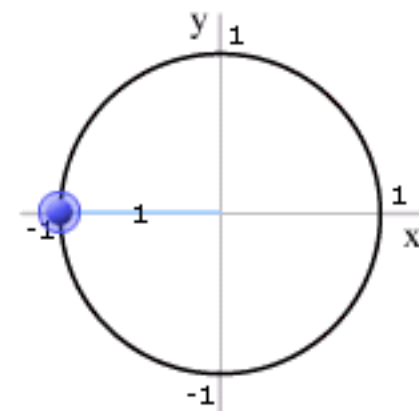
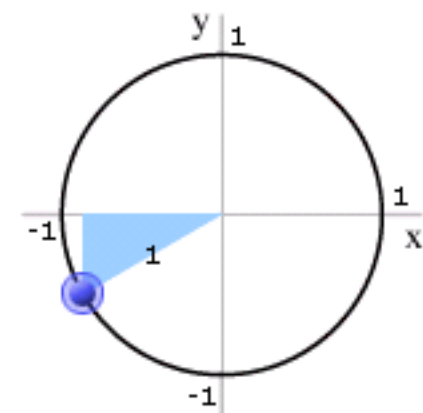
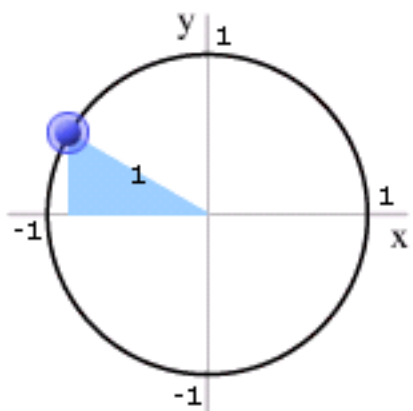
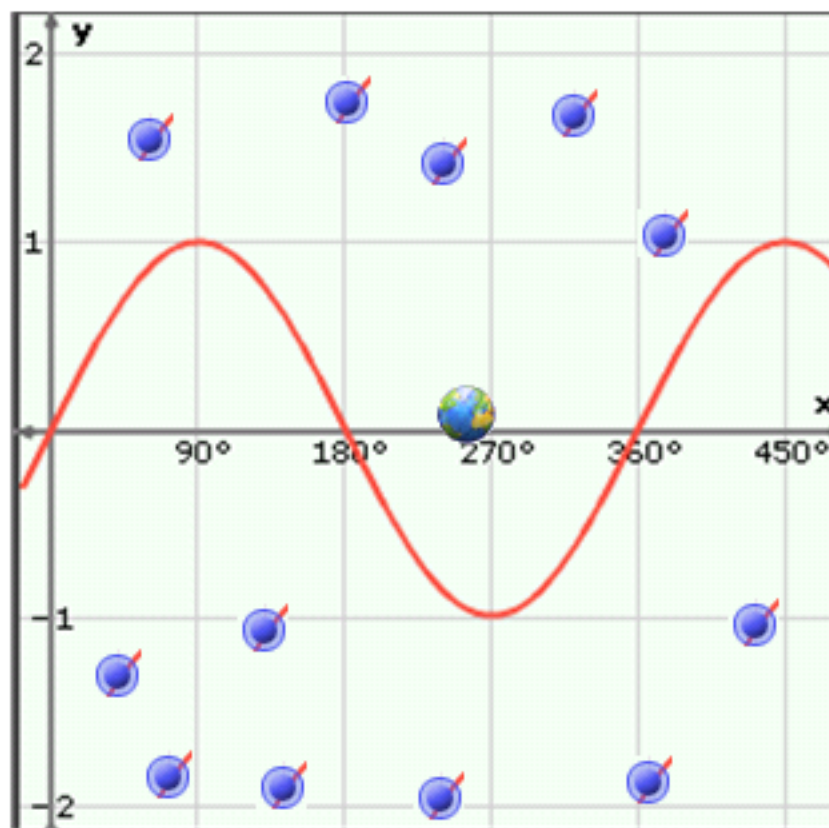
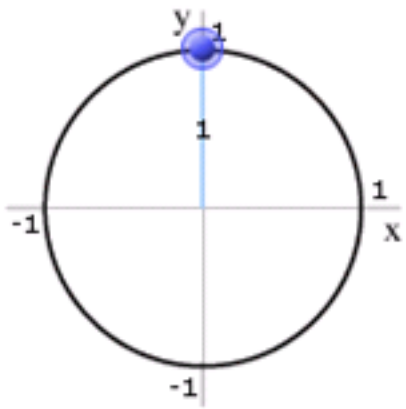
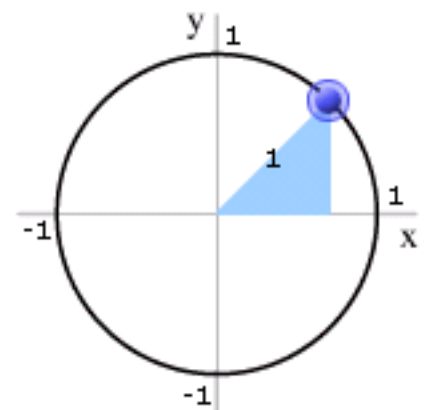
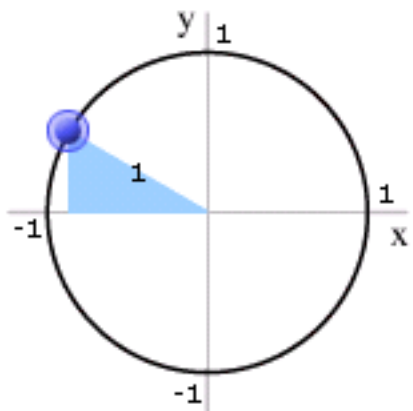
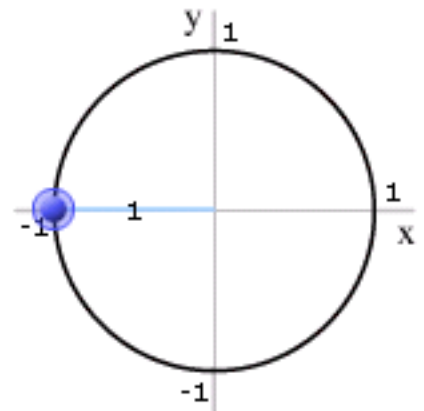
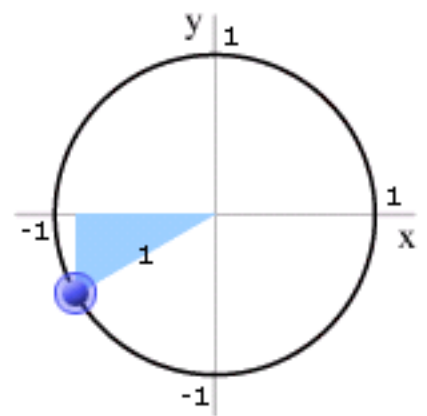
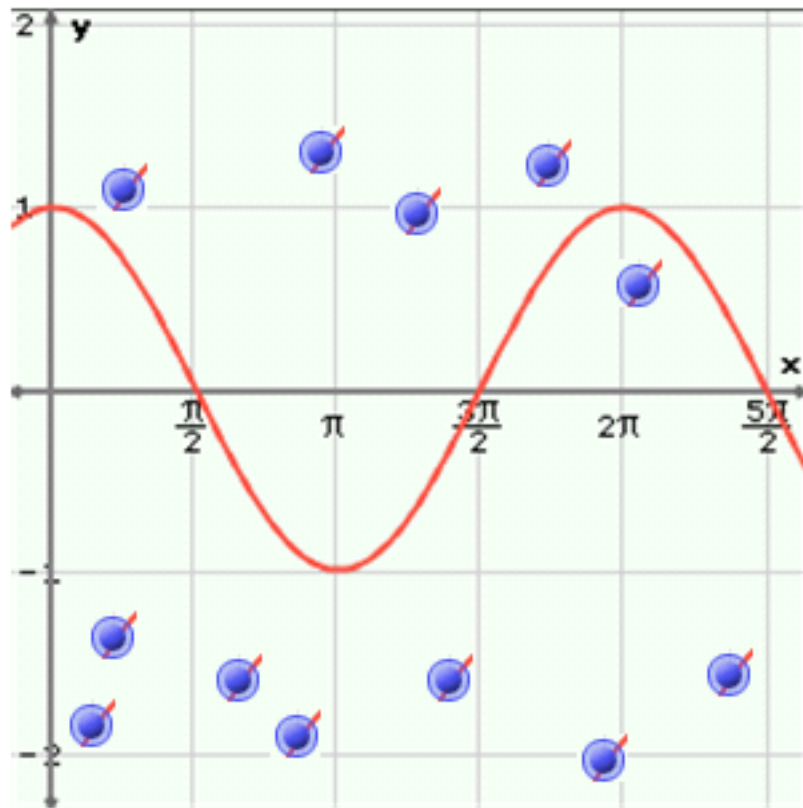
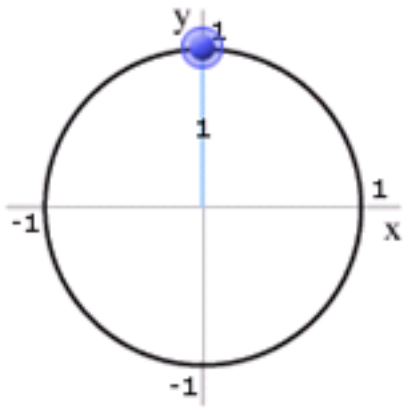


6.3--Graphing Sine and Cosine Functions

Bell: Please read the real-world application about meteorology on pg 359



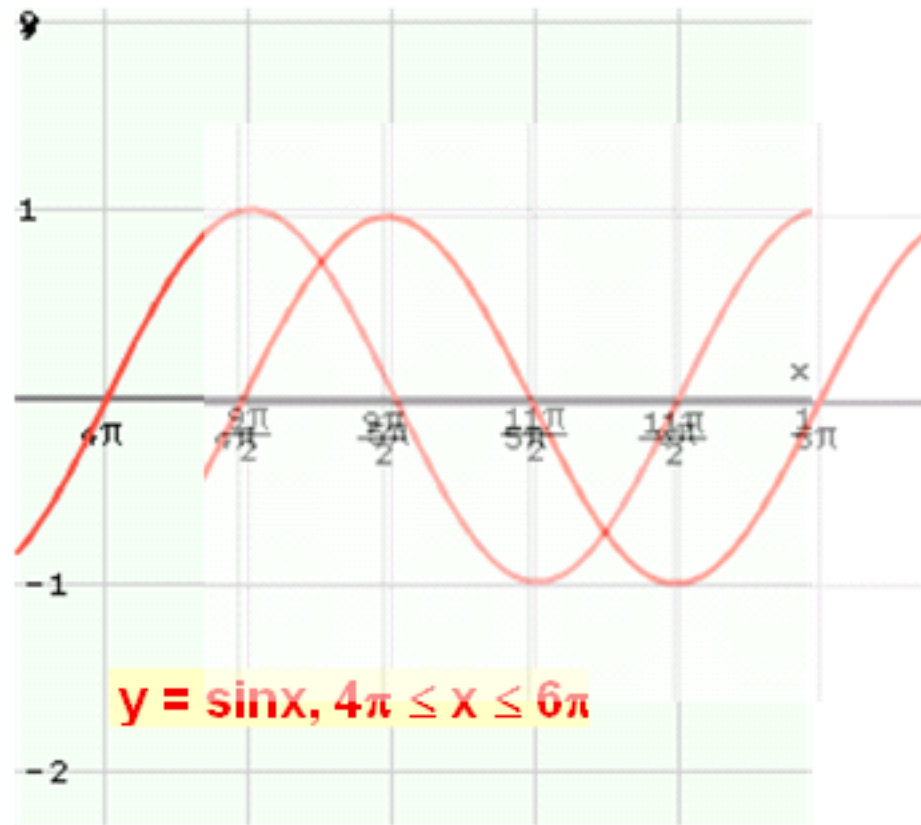
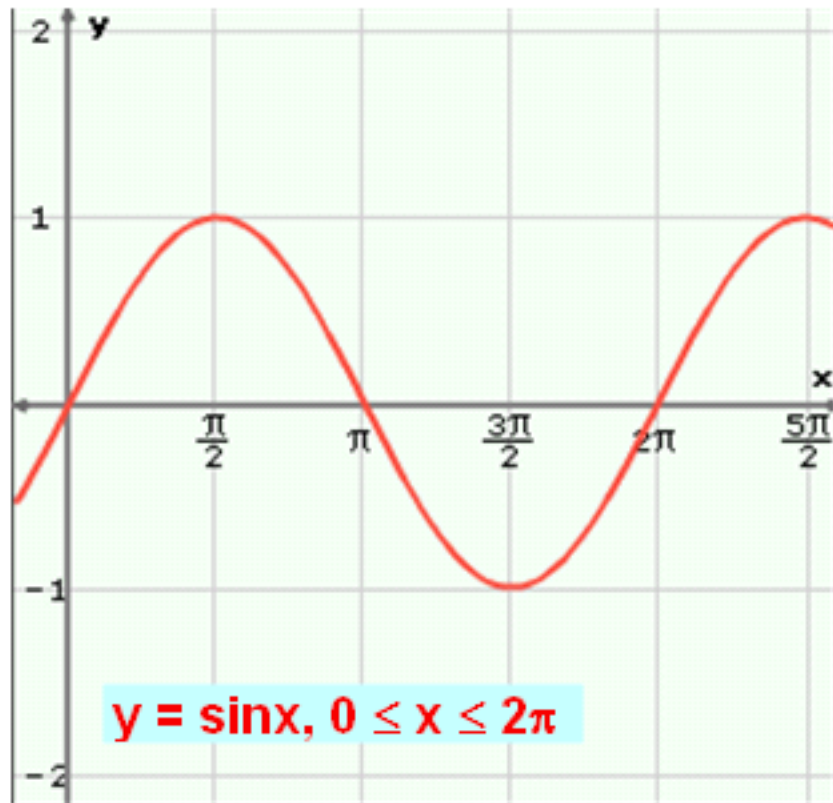
Graphing Cosine Functions



These curves are **periodic** which means they repeat their y values over and over for a certain interval.

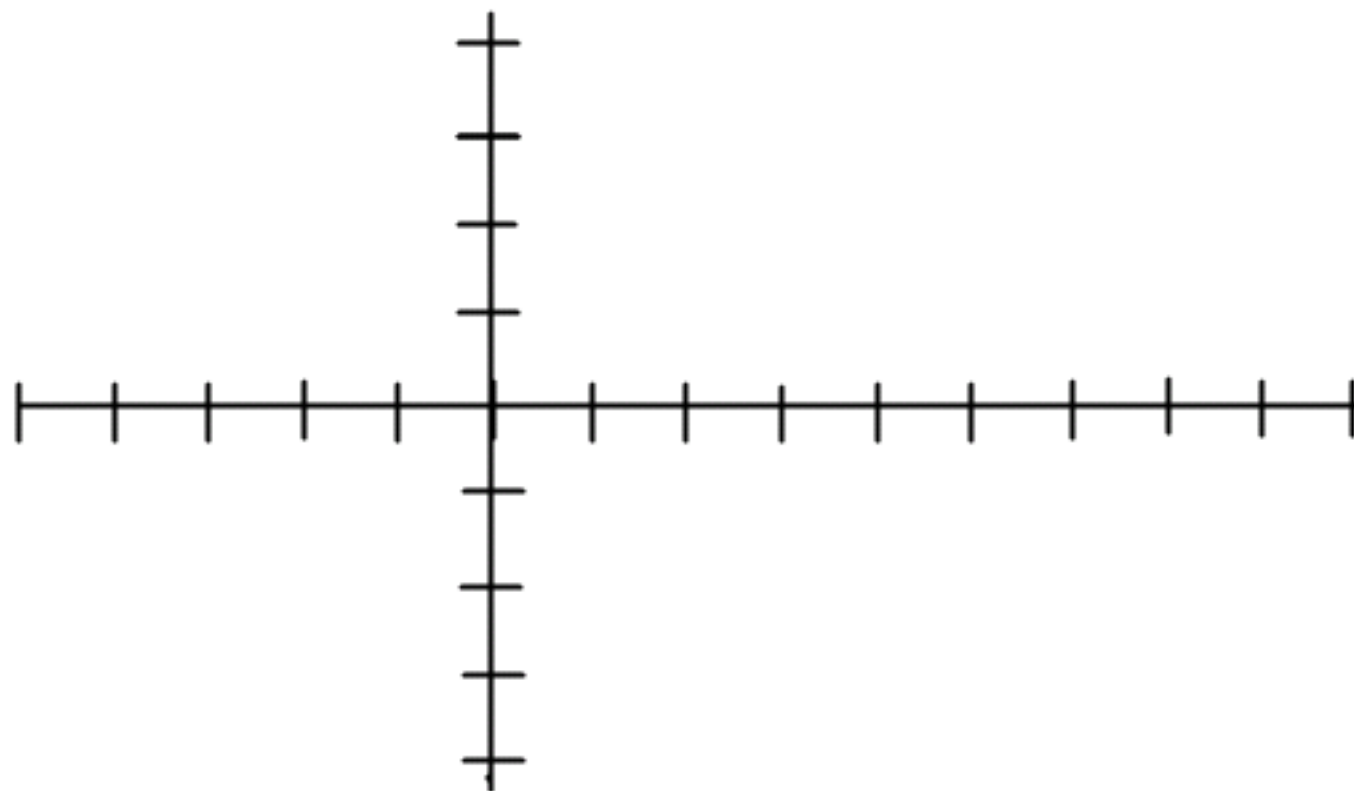
The period of the sine and cosine functions is 360° or 2π rads

WHY?



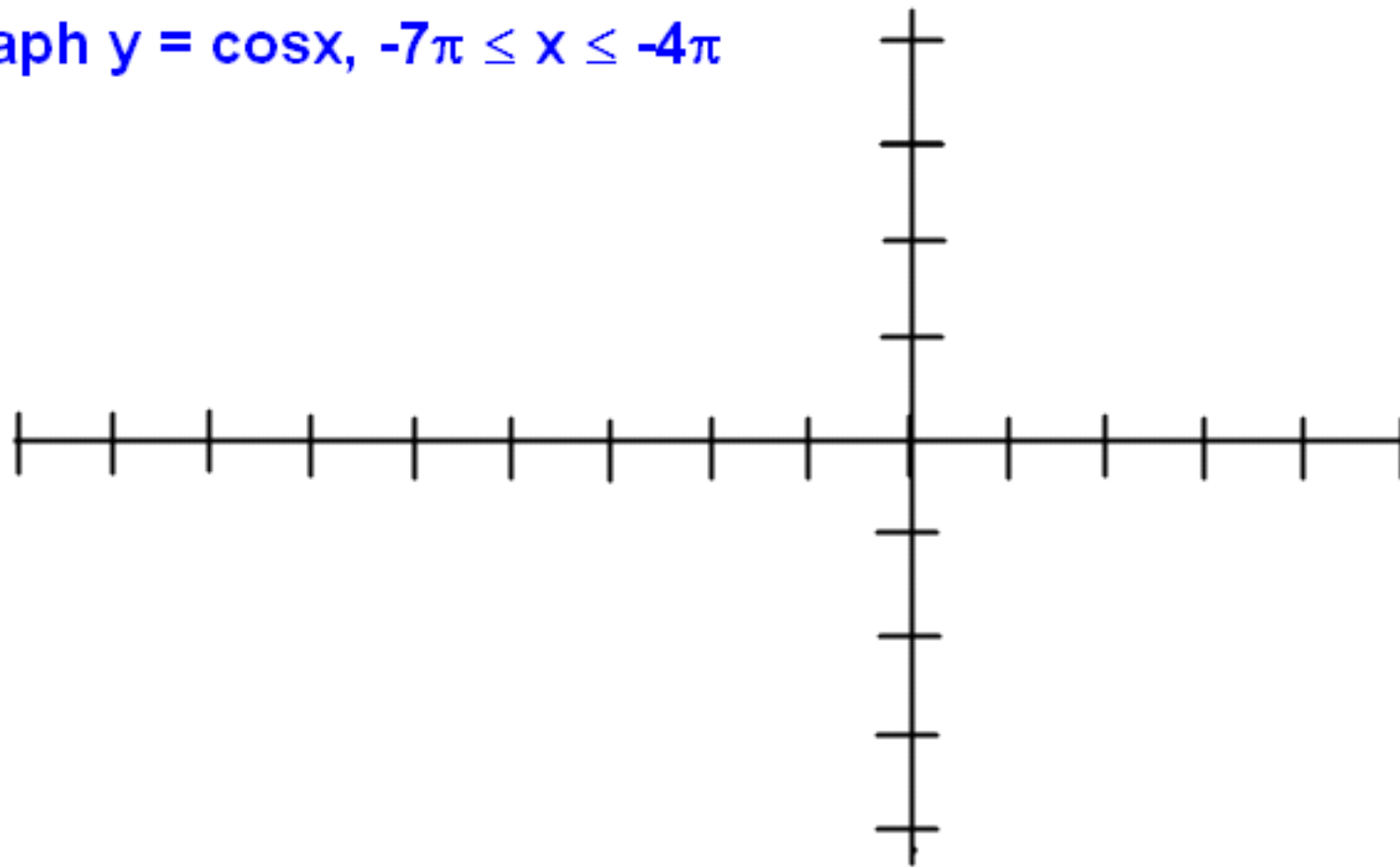
move graph to show =

Let's graph! You graph $y = \sin x$, $3\pi \leq x \leq 5\pi$



Check with GUT...make sure you're in radian mode....ZOOM 7 gives you a trig window, but you must set the appropriate window for this graph...you can type in 3π !

Graph $y = \cos x$, $-7\pi \leq x \leq -4\pi$



Check with GUT...make sure you're in radian mode....ZOOM 7 gives you a trig window, but you must set the appropriate window for this graph...you can type in 3π !

Characteristics of the sine curve

domain
all reals

period
 2π
range
 $-1 \leq y \leq 1$

x-intercepts
 $\pi n, n \text{ an } \mathbb{Z}$

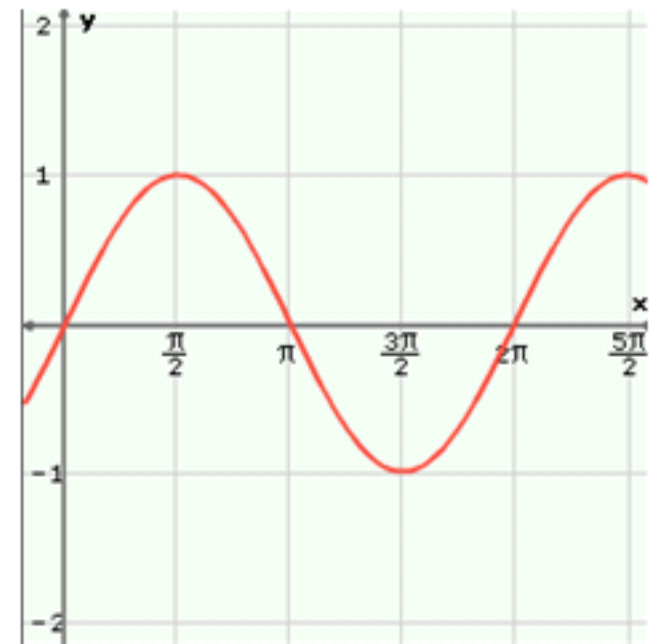
y-intercepts?
 $(0,0)$

max values

$y = 1$ @
 $x = \pi/2 + 2\pi n,$
 $n \text{ an } \mathbb{Z}$

min values

$y = -1$ @
 $x = 3\pi/2 + 2\pi n,$
 $n \text{ an } \mathbb{Z}$



Characteristics of the cosine curve

domain all reals
period 2π
range $-1 \leq y \leq 1$
x-intercepts $\pi/2 + \pi n, n \text{ an } \mathbb{Z}$

y-intercepts?
 $(0, 1)$

max values

$y = 1$ @

$x = \pi n, n \text{ an even } \mathbb{Z}$

min values

$y = -1$ @

$x = \pi n, n \text{ an odd } \mathbb{Z}$

