Use the Unit circle to fill out the table below (round decimals to the nearest hundredth)

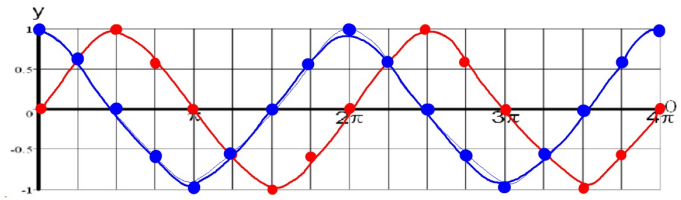
θ	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π	$\frac{9\pi}{4}$	$\frac{5\pi}{2}$	$\frac{11\pi}{4}$	3π	$\frac{13\pi}{4}$	$\frac{7\pi}{2}$	$\frac{15\pi}{4}$	4π
Sinθ	0	.71	1	.71	0	-.71	-1	-.71	0	.71	1	.71	0	-.71	-1	-.71	0

Use this table to graph two cycles of the Sine Function on the graph below

Use the Unit Circle to fill out the table below (round decimals to the nearest hundredth)

θ	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	π	$\frac{5\pi}{4}$	$\frac{3\pi}{2}$	$\frac{7\pi}{4}$	2π	$\frac{9\pi}{4}$	$\frac{5\pi}{2}$	$\frac{11\pi}{4}$	3π	$\frac{13\pi}{4}$	$\frac{7\pi}{2}$	$\frac{15\pi}{4}$	4π
Cosθ	1	.71	0	-.71	-1	-.71	0	.71	1	.71	0	-.71	-1	-.71	0	.71	1

Use this table to graph two cycles of the Cosine Function on the same graph as Sine. Use a different color.



What is the Period and Amplitude for $y = \sin x$

Period = 2π Amplitude = 1

What is the Period and Amplitude for $y = \cos x$

Period = 2π Amplitude = 1

How are the graphs of Sinx and Cosx related?

Same shape
Same period
Same amp

different starting point

The Cosine Function: Sec 13-5

Characteristics of the Parent Function: y = Cosx

Period:	2π
Amplitude:	1
Midline:	y=0

These are the same as y=Sinx

y = aCosbx

a = Vertical Stretch or Shrink

|a| = Amplitude

a<0 is an x-axis reflection (upside down)

These are all the same as y=aSinbx

Period = $\frac{2\pi}{b}$

b = $\frac{2\pi}{\text{Period}}$

b=

Find the Period and Amplitude of each Cosine function.

1. $y = -9\text{Cos}5x$

Period = $\frac{2\pi}{5}$

Amplitude = 9

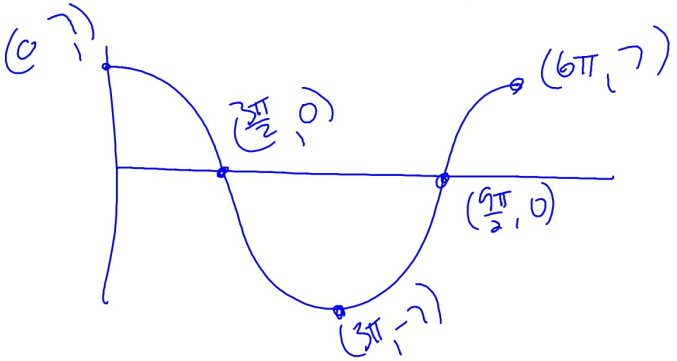
2. $y = 3\text{Cos}\left(\frac{x}{7}\right)$

Period = $\frac{2\pi}{\frac{1}{7}} = 14\pi$

Amplitude = 3

Graph one period of: y = 7Cos(x/3)

label the coordinates of all min, max, and x-int.



amp = 7

period

$\frac{2\pi}{\frac{1}{3}} = 2\pi \cdot \frac{3}{1} = 6\pi$

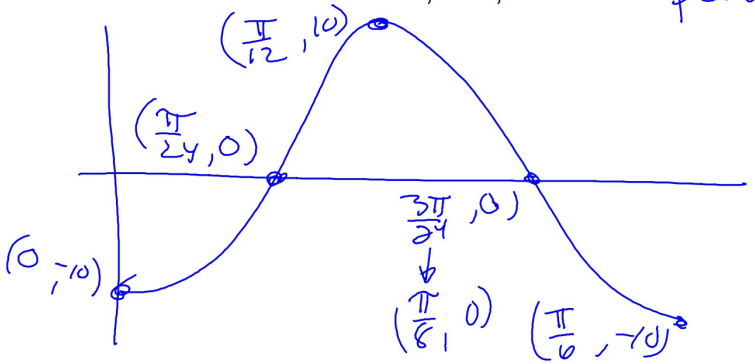
Graph one period of: y = -10Cos12x

label the coordinates of all min, max, and x-int.

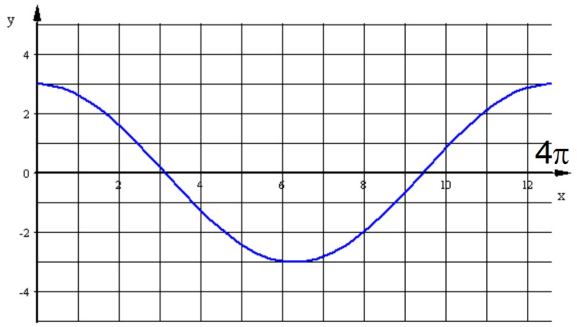
upside down

amp = 10

period = $\frac{2\pi}{12} = \frac{\pi}{6}$



Write the equation of this Cosine Function.



amp = 3

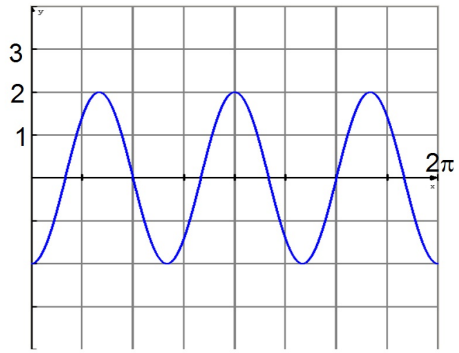
a = 3

period = 4π

$b = \frac{2\pi}{4\pi} = \frac{1}{2}$

y = 3Cos(x/2)

Write the equation of this Cosine Function.



amp = 2

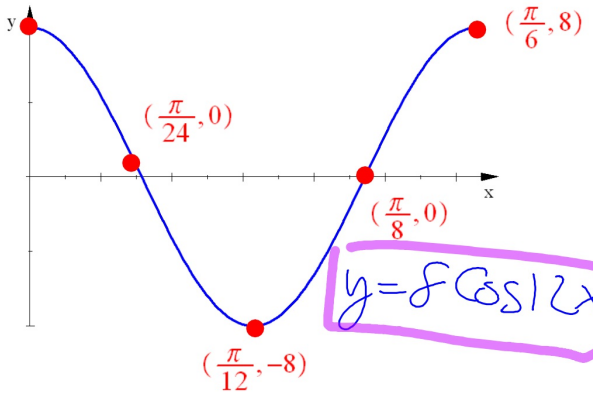
a = -2

period = $\frac{2\pi}{3}$

$b = \frac{2\pi}{\frac{2\pi}{3}} = 2\pi \cdot \frac{3}{2\pi} = 3$

y= -2Cos(3x)

Write the equation of this Cosine Function:



Amp = 8

a = 8

period = $\frac{\pi}{6}$

$b = \frac{2\pi}{\frac{\pi}{6}} = 2\pi \cdot \frac{6}{\pi}$

b = 12

y = 8Cos12x