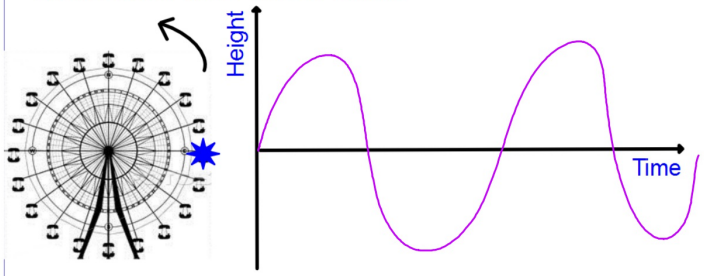
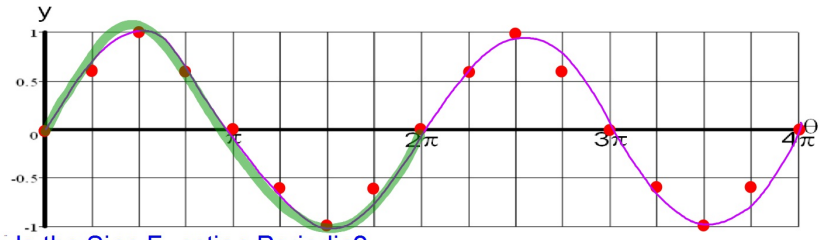
Suppose the you get on a Ferris Wheel at the spot marked with the star. Sketch the graph of your height above/below the spot marked with the star as the Ferris Wheel turns.



http://www.sfu.ca/~jtmulhol/calculus-applets/GeoGebra-Worksheets/trigonometric-graphs.html

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

Graph the data in this table to see what the Sine Function looks like.

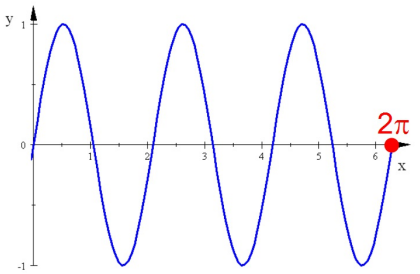


Is the Sine Function Periodic?

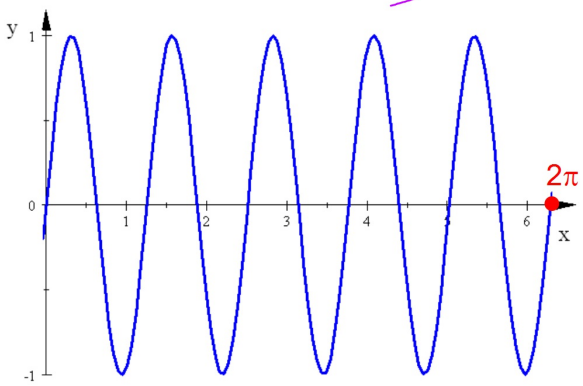
Period = 2π Amplitude = 1 Eq of Midline: $y=0$

What is the period?

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



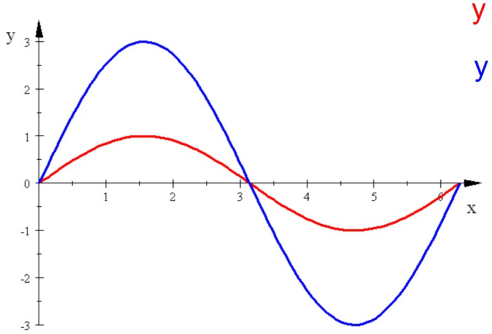
What is the period? $2\pi/5$

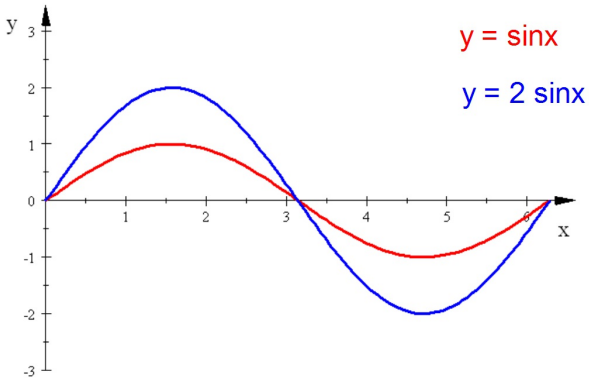


Graph of y=sinx Exploration

y = sinx

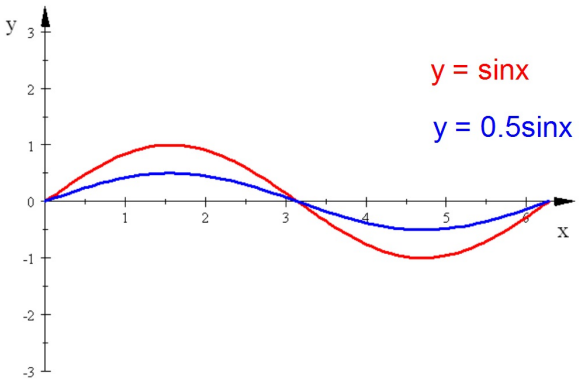
y = 3 sinx amp = 3





y = sinx

y = 2 sinx amp=2

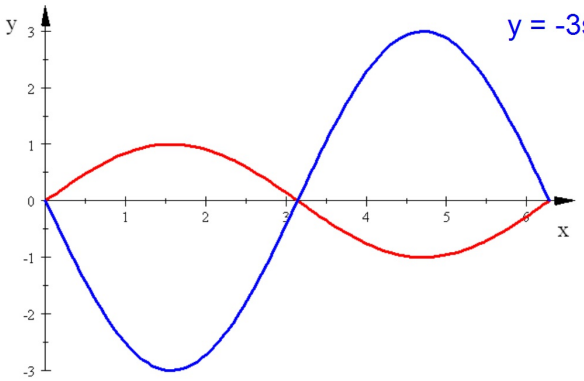


y = sinx

y = 0.5sinx amp = 1/2

y = sinx

y = -3sinx amp = 3 upside down



http://curvebank.calstatela.edu/cs390trig/cs390trig.htm

http://www.intmath.com/trigonometric-graphs/1-graphs-sine-cosine-amplitude.php

http://www.analyzemath.com/trigonometry/sine.htm

y = asinx

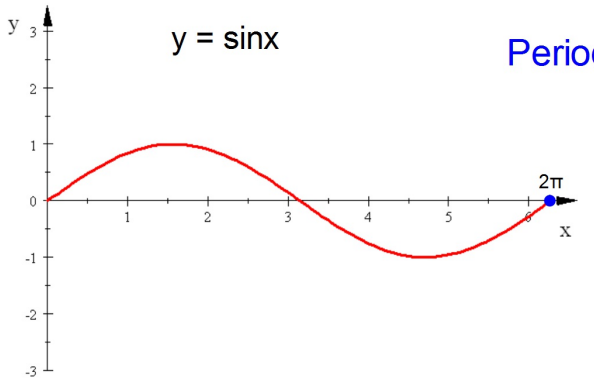
|a| = Amplitude

If a<0 then there is an x-axis reflection.

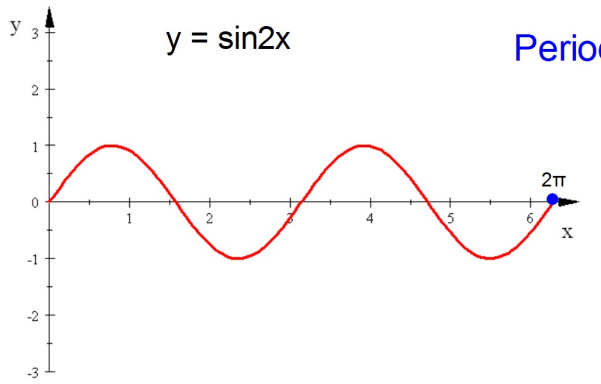
Upside down

y = sinx

Period = 2π

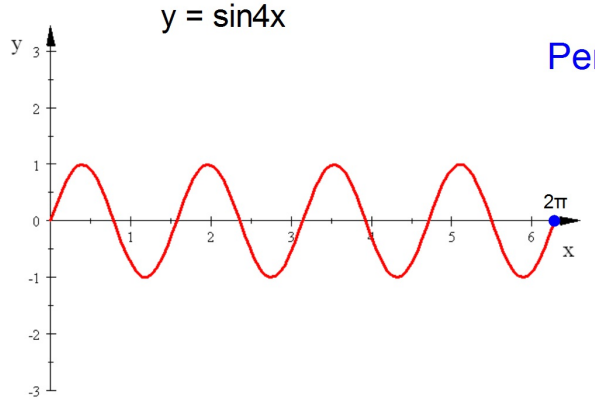


y = sin2x



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

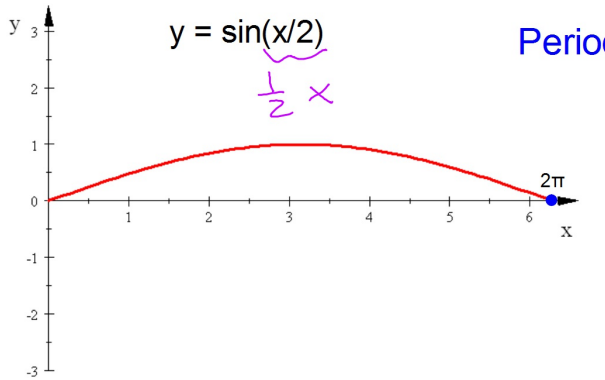
y = sin4x



Period = $\frac{2\pi}{4} = \frac{\pi}{2}$

y = sin(x/2)

$\frac{1}{2}x$



Period = $\frac{2\pi}{1/2} = 4\pi$

The period of y=sinx is 2π

The period of y=sin2x is π $\frac{2\pi}{2}$

The period of y=sin4x is π/2 $\frac{2\pi}{4}$

The period of y=sin(x/2) is 4π $\frac{2\pi}{1/2}$

The period of y = sinbx Period = $\frac{2\pi}{b}$

If eq is y = sin(x/5) Period $\frac{2\pi}{1/5} = 2\pi \cdot 5 = 10\pi$