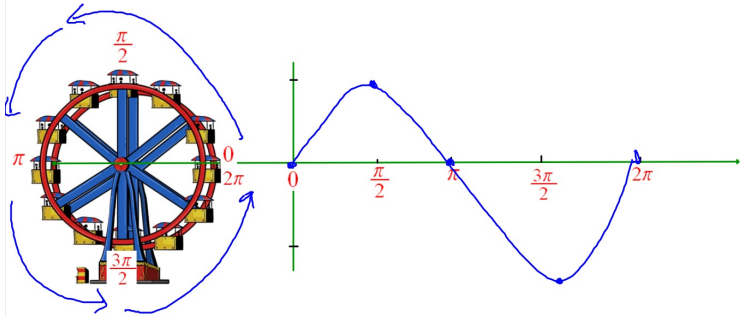
The graph of $y = \sin\theta$

- The y-coordinates around the Unit Circle
- The height above the center point as a

Ferris Wheel rotates.



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

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

$Y_1 = \sin\theta$

window: x $[0, 4\pi]$
y $[-3,3]$

Make sure your calculator is in radians mode.

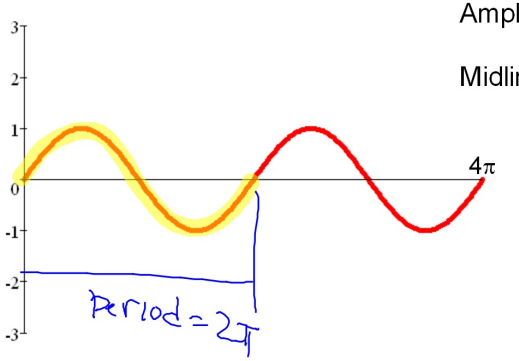
$y = \sin\theta$

Notes

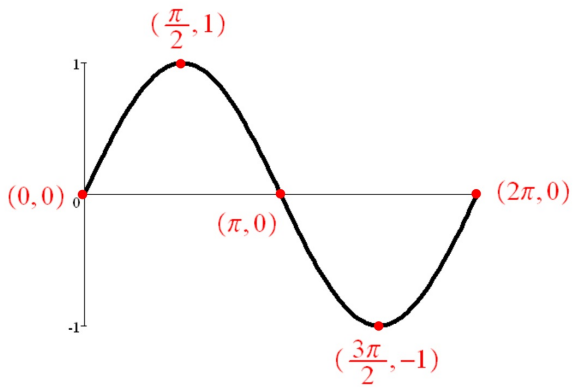
Period = 2π

Amplitude = 1

Midline: $y = 0$



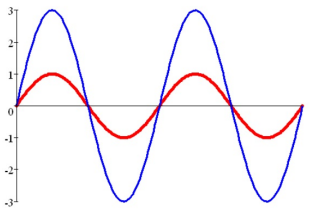
The Parent Function y = Sinθ



Graph the following and describe what happens to the graph.

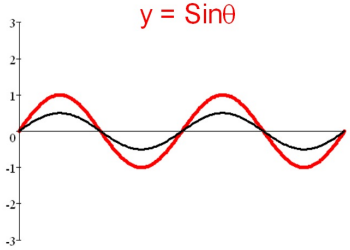
1. Y = 3sinθ

y = Sinθ



2. Y = 0.5sinθ

y = Sinθ

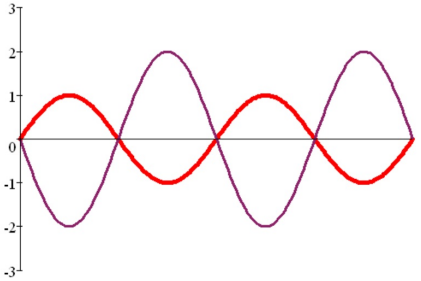


y = aSinθ

a = Amplitude also a vertical stretch or shrink.

y= -2sinθ

y = Sinθ



y = -2sinθ is upside down and twice as tall as the parent function y = sinθ

$y = a\sin\theta$

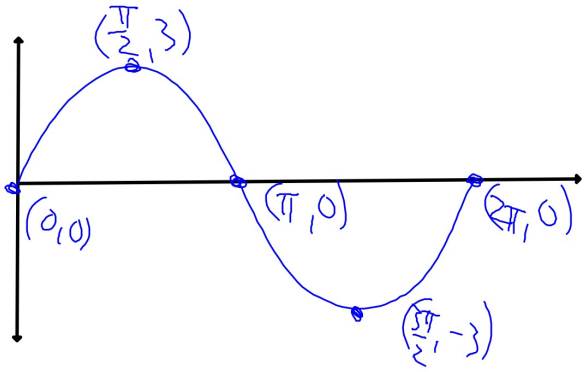
a = Amplitude

a<0 x-axis reflection
upside down

Sketch one period of the graph of
$y=3\sin\theta$

Notes

Label the coordinates of all x-intercepts, minimums, and maximums.



Sketch one period of the graph of
$y = -5\sin x$

Label the coordinates of all x-intercepts, minimums, and maximums.