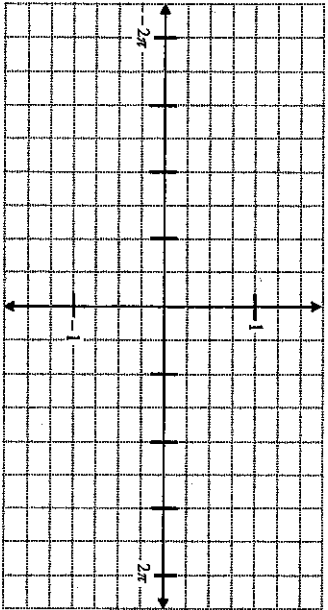
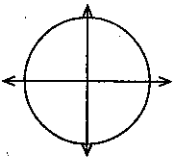


The Sine Function: $y = \sin x$

Graph $y = \sin x$, $y = 2 \sin x$, $y = \sin 2x$ on graphing calculator. Mode Radians, Zoom zTrig



Amplitude = _____

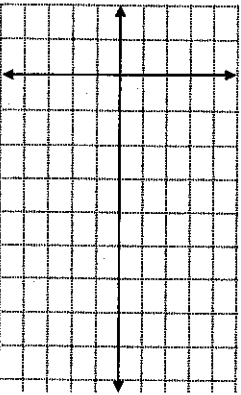
Period = _____

The amplitude of a function is half the distance between the maximum and minimum values.
The period of a periodic function is the horizontal length of one cycle.

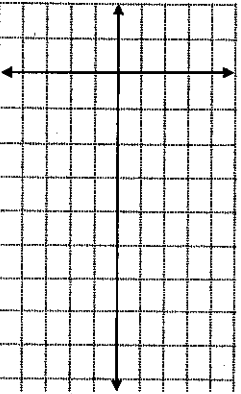
- Suppose $y = a \sin bx$, with $a \neq 0$, $b > 0$, and x in radians.
- $|a|$ is the amplitude of the function.
- b is the number of cycles in the interval from 0 to 2π .
- $\frac{2\pi}{b}$ is the period of the function.

Sketch one cycle of the graph of each sine function. (Find amplitude and period first)

1. $y = 2 \sin x$

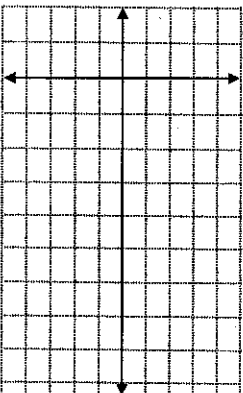


2. $y = \sin 2x$

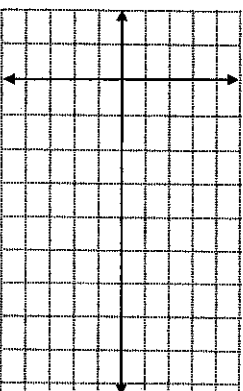


The Sine Function.doc

3. $y = 4 \sin \frac{1}{2} \theta$

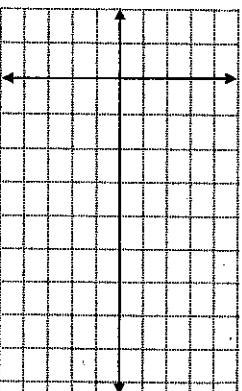


4. $y = -\sin \pi \theta$

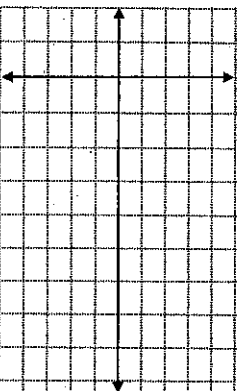


Sketch one cycle of each sine curve. Assume $a > 0$. Write an equation for each graph.

5. amplitude 2, period $\frac{2\pi}{3}$



6. amplitude $\frac{1}{3}$, period $\frac{\pi}{2}$



The Sine Function.doc