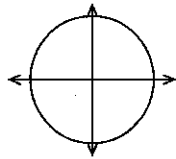


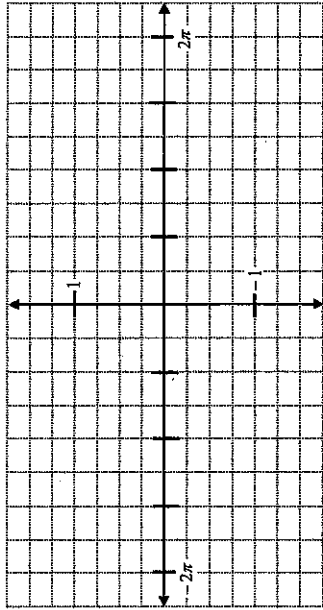
The Cosine Function: $y = \cos x$

Graph $y = \cos x$, $y = 2 \cos x$, $y = \cos 2x$ on graphing calculator. Mode *Radians*, Zoom *ztrig*



Amplitude = _____

Period = _____

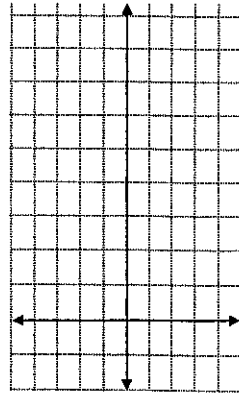
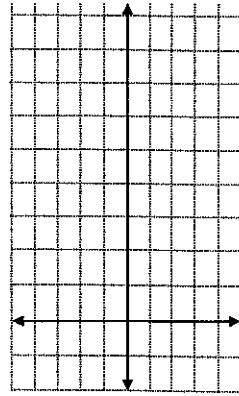


The amplitude of a function is half the distance between the maximum and minimum values. The period of a periodic function is the horizontal length of one cycle.

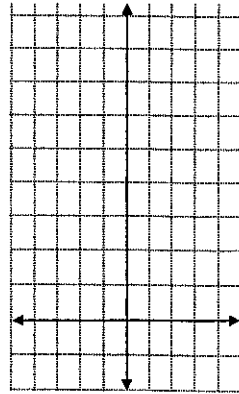
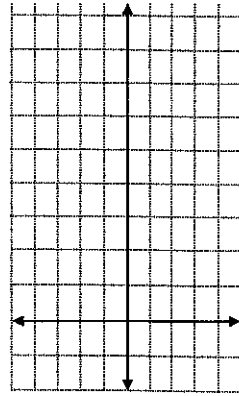
- Suppose $y = a \cos bx$, with $a \neq 0$, $b > 0$, and x in radians.
- $|a|$ is the amplitude of the function.
 - b is the number of cycles in the interval from 0 to 2π .
 - $\frac{2\pi}{b}$ is the period of the function.

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

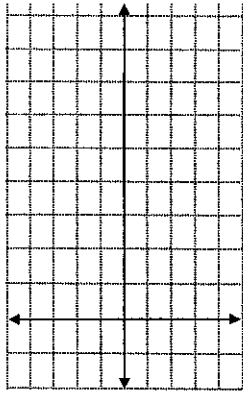
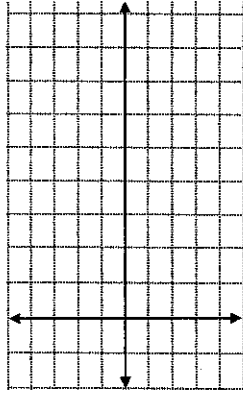
1. $y = 2 \cos x$



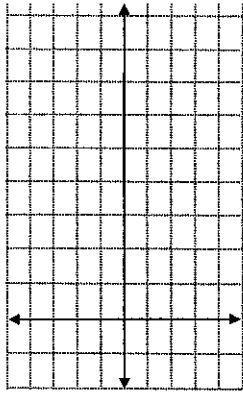
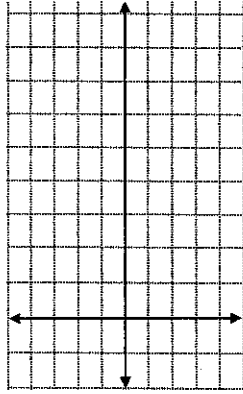
2. $y = \cos 2x$



3. $y = -\frac{1}{2} \cos 2\theta$

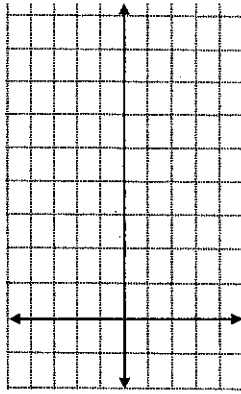


4. $y = 2 \cos \pi \theta$



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

5. amplitude 4, period 6π



6. amplitude 2.5, period 8

