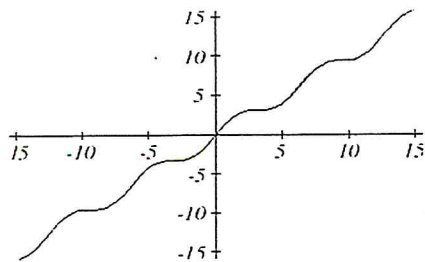


Graphs of Periodic Functions Review

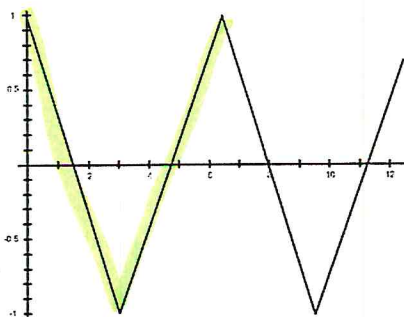
DIRECTIONS: Determine if the following graphs represent periodic functions. If not, explain why. If the graph is periodic find the period.

1)



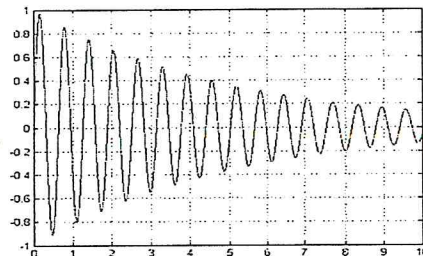
No! The function is increasing.

2)



Yes!
Period = 6

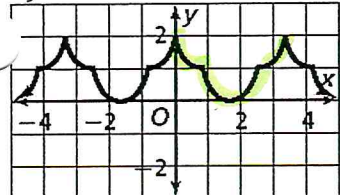
3)



No! The function is decreasing

DIRECTIONS: (a) Highlight one cycle of each of the following periodic graphs. (b) Find the period. (c) Find the amplitude.

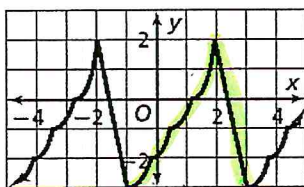
4)



b) Period = 3.5

c) Amplitude = $\frac{1}{2}(2 - (-2))$
= 2

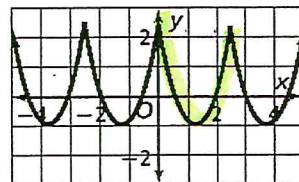
5)



b) Period = 4

c) Amplitude = $\frac{1}{2}(2 - (-3))$
= $\frac{1}{2}(5)$
= 2.5

6)



b) Period = 2.5

c) Amplitude = $\frac{1}{2}(2 - (-1))$
= $\frac{1}{2}(3)$
= 1.5

DIRECTIONS: Graph one cycle of each of the following trig functions. YOU MUST INCLUDE A TABLE.

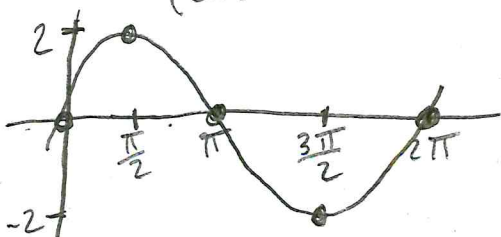
7) $y = 2\sin\theta$

$a = 2$

$b = 1$

Period = 2π

θ	y
$0 (2\pi) = 0$	0
$\frac{1}{4}(2\pi) = \frac{\pi}{2}$	2
$\frac{1}{2}(2\pi) = \pi$	0
$\frac{3}{4}(2\pi) = \frac{3\pi}{2}$	-2
$1(2\pi) = 2\pi$	0



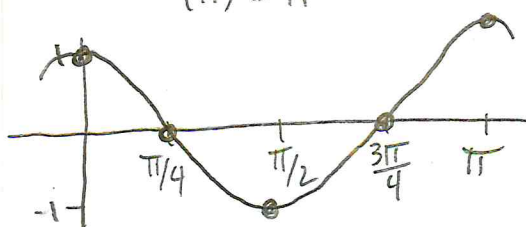
8) $y = \cos(2\theta)$

$a = 1$

$b = 2$

Period: π

θ	y
$0 (\pi) = 0$	1
$\frac{1}{4}(\pi) = \frac{\pi}{4}$	0
$\frac{1}{2}(\pi) = \frac{\pi}{2}$	-1
$\frac{3}{4}(\pi) = \frac{3\pi}{4}$	0
$1(\pi) = \pi$	1



9) $y = -5\sin(\pi\theta)$

$a = -5$

$b = \pi$

Period = 2

θ	y
$0(2) = 0$	0
$\frac{1}{4}(2) = \frac{1}{2}$	-5
$\frac{1}{2}(2) = 1$	0
$\frac{3}{4}(2) = \frac{3}{2}$	5
$1(2) = 2$	0



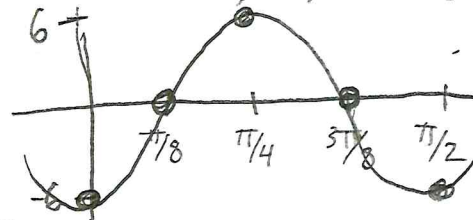
10) $y = -6\cos(4\theta)$

$a = -6$

$b = 4$

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

θ	y
$0(\pi/2) = 0$	-6
$\frac{1}{4}(\pi/2) = \pi/8$	0
$\frac{1}{2}(\pi/2) = \pi/4$	6
$\frac{3}{4}(\pi/2) = 3\pi/8$	0
$1(\pi/2) = \pi/2$	-6



DIRECTIONS: Write an equation that matches the given description.

11) A positive cosine function with amplitude of 3 and period of 4π .

$y = a \cos b\theta$

$a = 3$

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

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

12) A negative sine function with amplitude of 4 and period of 3.

$y = -a \sin b\theta$

$a = -1$

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

$y = -\sin \frac{2\pi}{3}\theta$

13) A positive sine function with amplitude of 10 and period of π .

$y = a \sin b\theta$

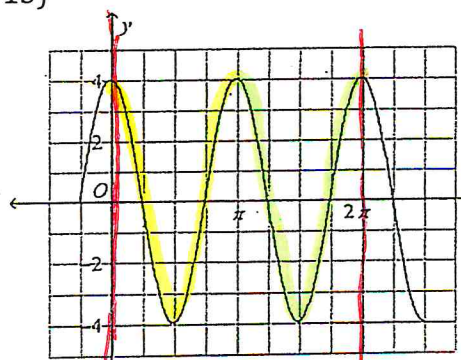
$a = 10$

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

$y = 10 \sin 2\theta$

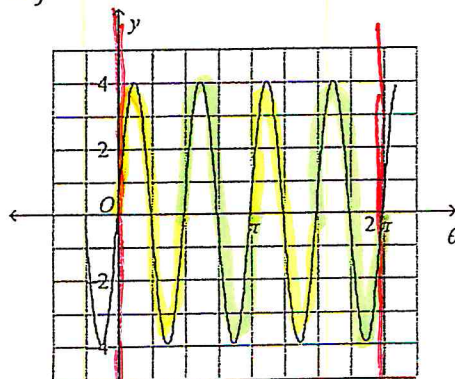
DIRECTIONS: Write an equation that satisfies the given periodic graph.

15)



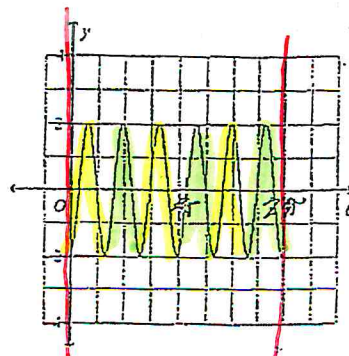
$y = 4 \cos 2\theta$

16)



$y = 4 \sin 4\theta$

17)



$y = -2 \cos 6\theta$