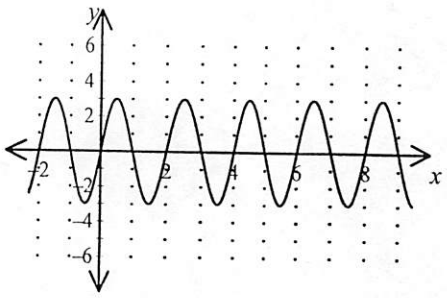
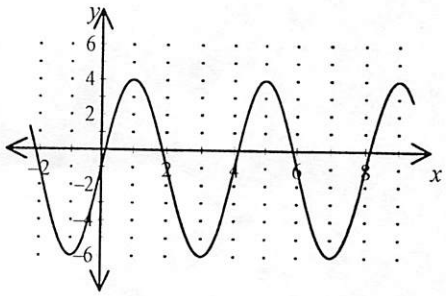
NAME:_____

SM3
Worksheet 11.6

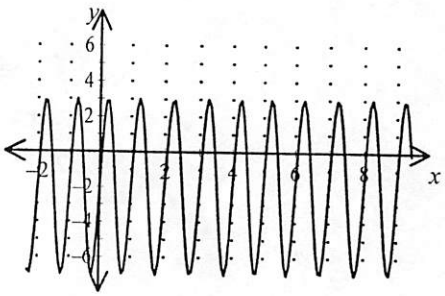
1. Calculate the period and amplitude of the function.



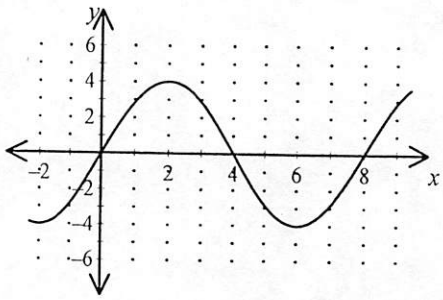
2. Calculate the period and amplitude of the function.



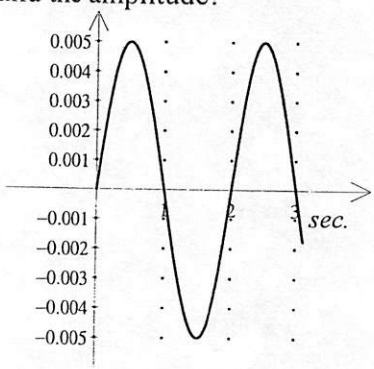
3. Calculate the period and amplitude of the function.



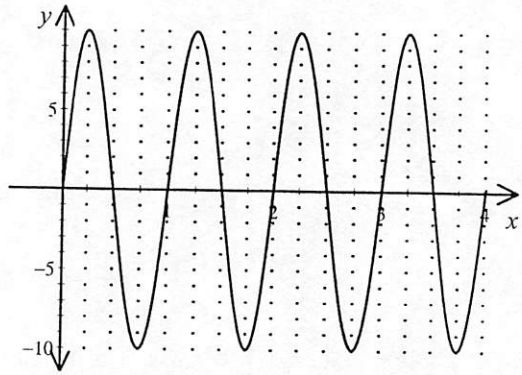
4. Calculate the period and amplitude of the function.



5. This screen shows the graph of a sound recorded on an oscilloscope. What is the period and the amplitude?



6. Find the period and amplitude of this function:



SM3
Worksheet 11.7

Name_____

Period_____

Determine the amplitude and period of each function.

1. $y = \sin 4x$

Amplitude = _____

Period = _____

2. $y = \cos 5x$

Amplitude = _____

Period=_____

3. $y = \sin x$

Amplitude=_____

Period=_____

4. $y = 4 \cos x$

Amplitude = _____

Period = _____

5. $y = -2 \sin x$

Amplitude = _____

Period=_____

6. $y = 2 \sin(-4x)$

Amplitude=_____

Period=_____

7. $y = 3 \sin \frac{2}{3}x$

Amplitude = _____

Period = _____

8. $y = -4 \cos 5x$

Amplitude = _____

Period=_____

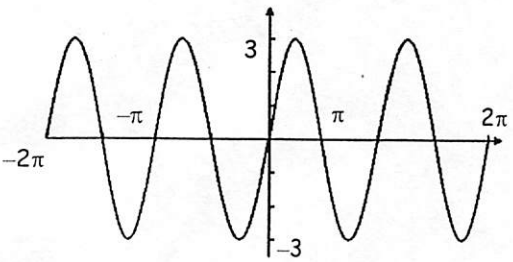
9. $y = 3 \cos(-2x)$

Amplitude=_____

Period=_____

Give the amplitude and period of each function graphed below. Then write an equation of each graph.

10.

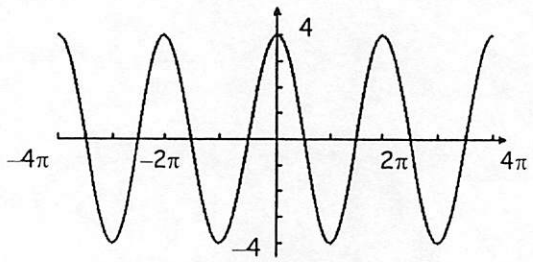


Amplitude = _____

Period = _____

Equation: _____

11.

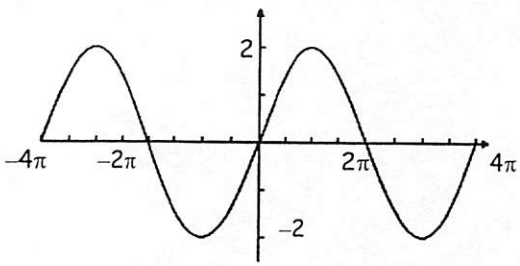


Amplitude=_____

Period=_____

Equation:_____

12.

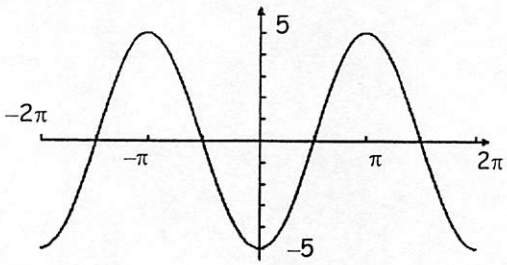


Amplitude = _____

Period = _____

Equation: _____

13.



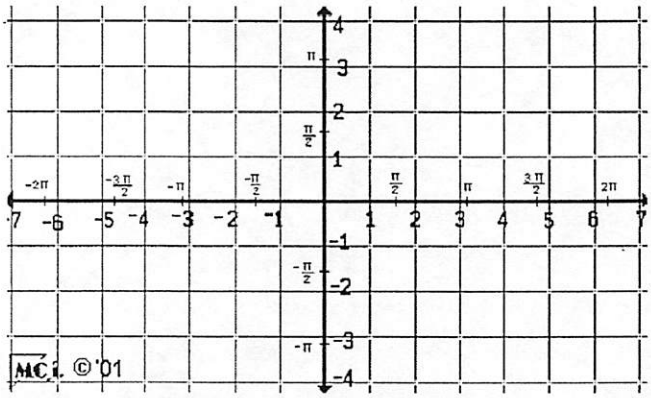
Amplitude=_____

Period=_____

Equation:_____

Give the amplitude and period of each function. Then sketch the graph of the function over the interval $-2\pi \le x \le 2\pi$ using the key points for each function.

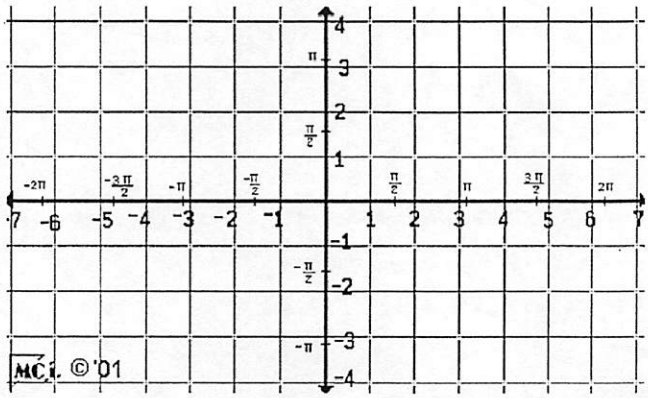
14. $y = 3 \sin x$



Amplitude = _____

Period = _____

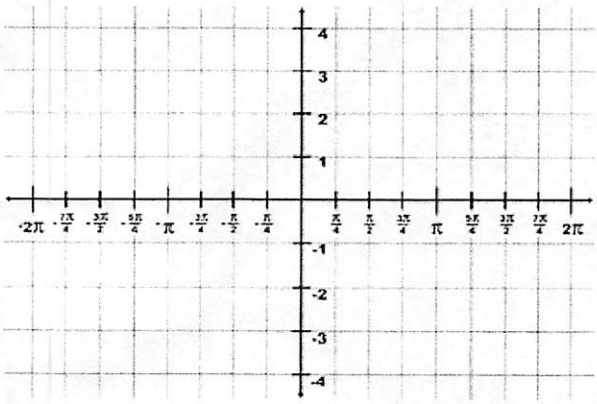
15. $y = 2 \cos x$



Amplitude=_____

Period=_____

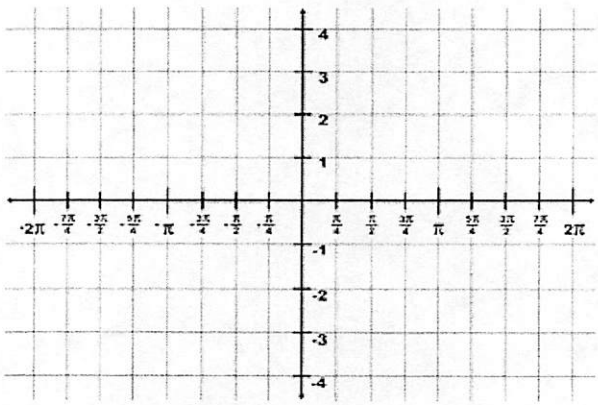
16. $y = 3 \sin 2x$



Amplitude = _____

Period = _____

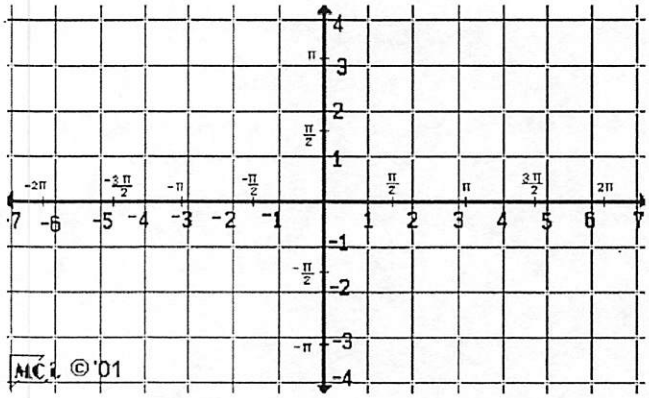
17. $y = 4 \cos 2x$



Amplitude=_____

Period=_____

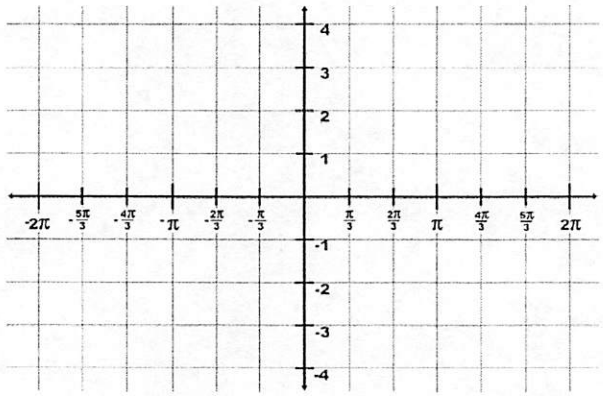
18. $y = 3 \cos \frac{1}{2} x$



Amplitude = _____

Period = _____

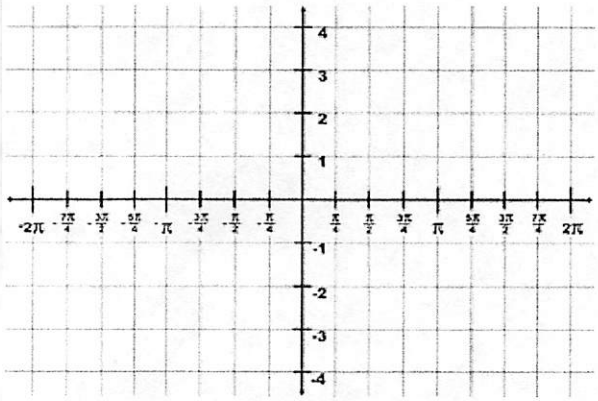
19. $y = \cos(3x)$



Amplitude=_____

Period=_____

20. $y = -2 \sin(2x)$



Amplitude = _____

Period = _____

21. Find an equation for a sine function that has amplitude of 4, a period of π.

22. Find an equation for a cosine function that has an amplitude of $\frac{3}{5}$, a period of $\frac{3}{2}\pi$.

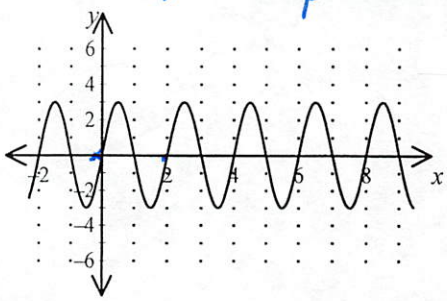
23. Find an equation for a sine function that has amplitude of 5, a period of 3π.

NAME: Key

SM3
Worksheet 11.6

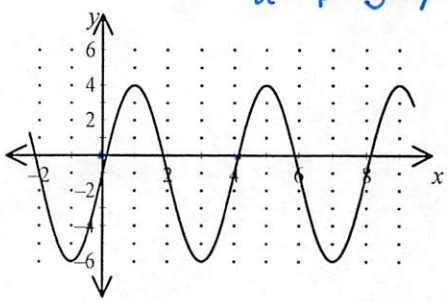
1. Calculate the period and amplitude of the function.

amp: 3 period: 2



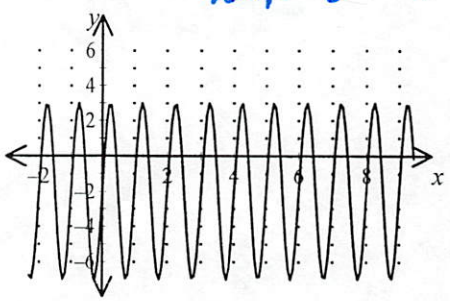
2. Calculate the period and amplitude of the function.

amp: 5 period: 4



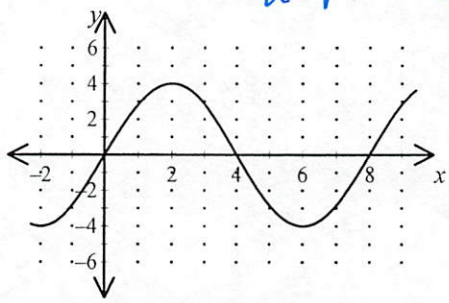
3. Calculate the period and amplitude of the function.

amp: 5 period: 1



4. Calculate the period and amplitude of the function.

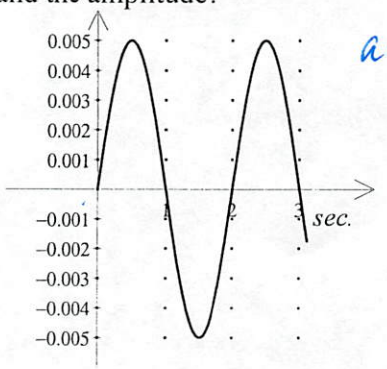
amp: 4 per: 8



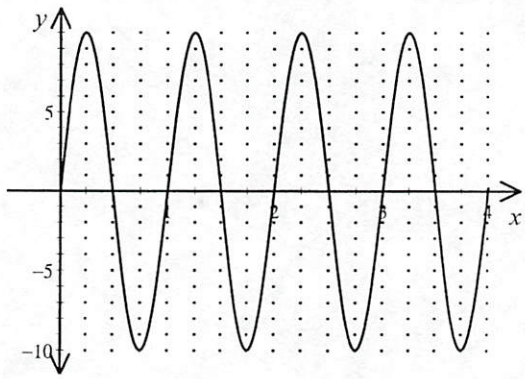
5. This screen shows the graph of a sound recorded on an oscilloscope. What is the period and the amplitude?

amp: .005

period: 2



6. Find the period and amplitude of this function:



amp: 10 period: 1

SM3
Worksheet 11.7

Name Key

Period _____

Determine the amplitude and period of each function.

1. $y = \sin 4x$

Amplitude = 1

Period = $\pi/2$

2. $y = \cos 5x$

Amplitude = 1

Period = $2\pi/5$

3. $y = \sin x$

Amplitude = 1

Period = 2π

4. $y = 4\cos x$

Amplitude = 4

Period = 2π

5. $y = -2\sin x$

Amplitude = 2

Period = 2π

6. $y = 2\sin(-4x)$

Amplitude = 2

Period = $\pi/2$

7. $y = 3\sin\frac{2}{3}x$

Amplitude = 3

Period = 3π

8. $y = -4\cos 5x$

Amplitude = 4

Period = $2\pi/5$

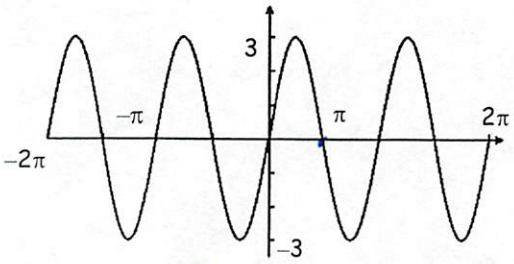
9. $y = 3\cos(-2x)$

Amplitude = 3

Period = π

Give the amplitude and period of each function graphed below. Then write an equation of each graph.

10.



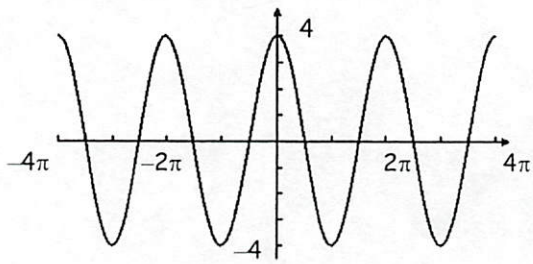
Amplitude = 3

Period = π

Equation: $y = 3\sin 2x$

$y = a\sin bx$

11.



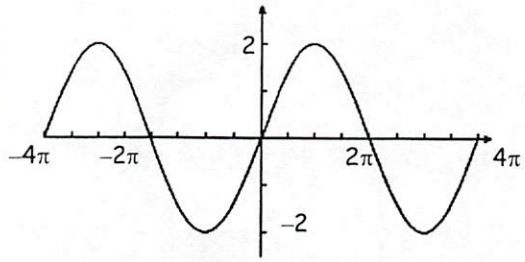
Amplitude = 4

Period = 2π

Equation: $y = 4\cos x$

$y = a\cos bx$

12.



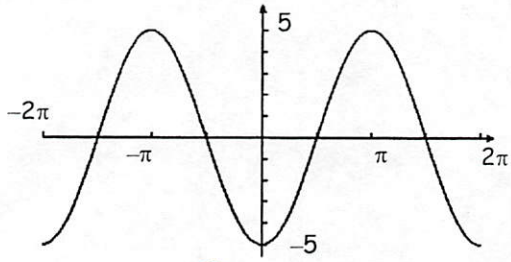
Amplitude = 2

Period = 4π

Equation: $y = 2\sin\frac{1}{2}x$

$y = a\sin x$

13.



Amplitude = 5

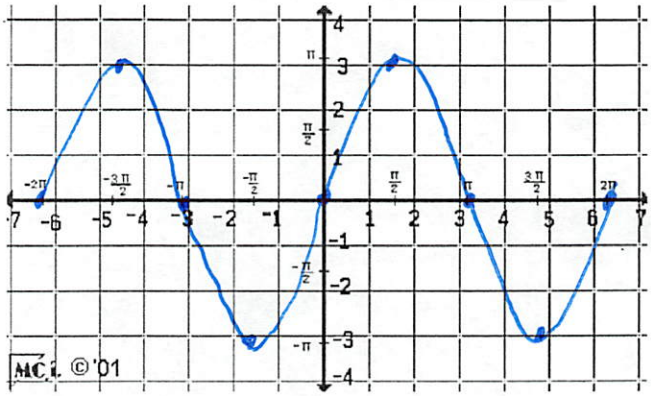
Period = 2π

Equation: $y = -5\cos x$

$y = -a\cos bx$

Give the amplitude and period of each function. Then sketch the graph of the function over the interval $-2\pi \le x \le 2\pi$ using the key points for each function.

14. $y = 3 \sin x$

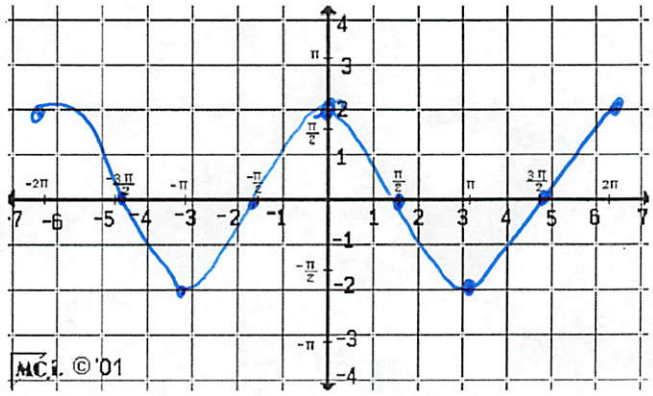


Amplitude = 3

Period = 2π

Critical points every $\pi/2$

15. $y = 2 \cos x$

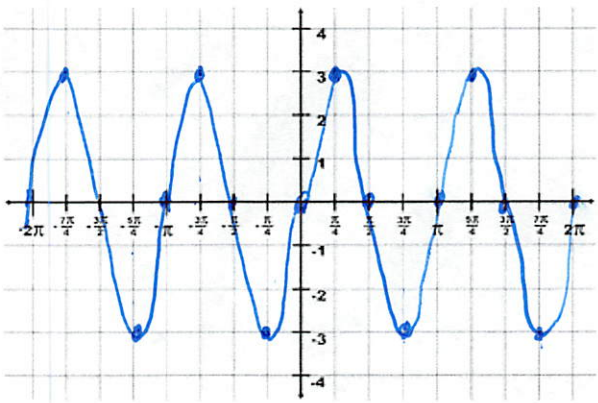


Amplitude = 2

Period = 2π

Critical point every $\pi/2$

16. $y = 3 \sin 2x$

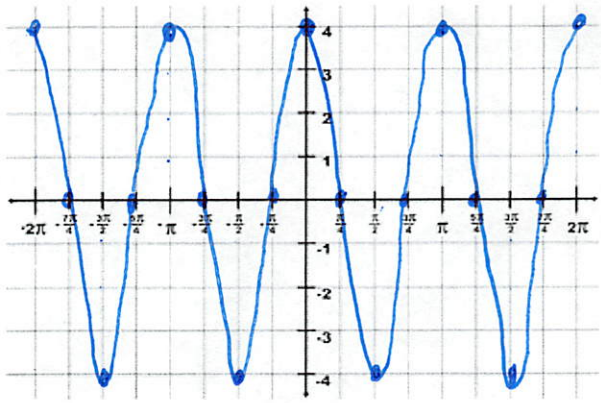


Amplitude = 3

Period = π

Critical point every $\pi/4$

17. $y = 4 \cos 2x$



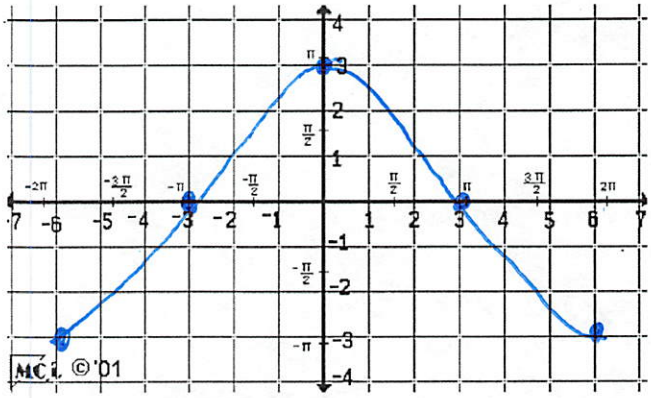
Amplitude = 4

Period = π

Critical point every $\pi/4$

18. $y = 3\cos\frac{1}{2}x$

D: $\mathbb{R}$
R: $[-3, 3]$



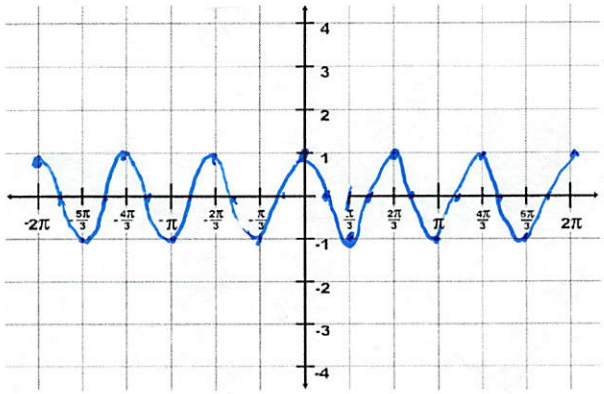
Amplitude = 3

Period = 4π

Critical point every π

19. $y = \cos(-3x)$

D: $\mathbb{R}$
R: $[-1, 1]$



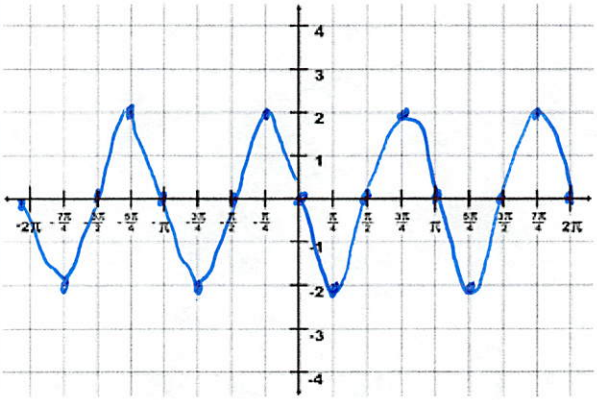
Amplitude = 1

Period = $2\pi/3$

Critical point every $\frac{\pi}{6}$

20. $y = -2\sin(2x)$

D: $\mathbb{R}$
R: $[-2, 2]$



Amplitude = 2

Period = π

Critical point every $\frac{\pi}{4}$

21. Find an equation for a sine function that has amplitude of 4, a period of π.

$y = a\sin bx$

$y = 4\sin 2x$

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

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

$b = 2$

22. Find an equation for a cosine function that has an amplitude of $\frac{3}{5}$, a period of $\frac{3}{2}\pi$.

$y = a\cos bx$

$y = \frac{3}{5}\cos\frac{4}{3}x$

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

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

$b = \frac{4}{3}$

23. Find an equation for a sine function that has amplitude of 5, a period of 3π.

$y = a\sin bx$

$y = 5\sin\frac{2}{3}x$

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

$3 = \frac{2}{b}$ $\quad b = 2/3$