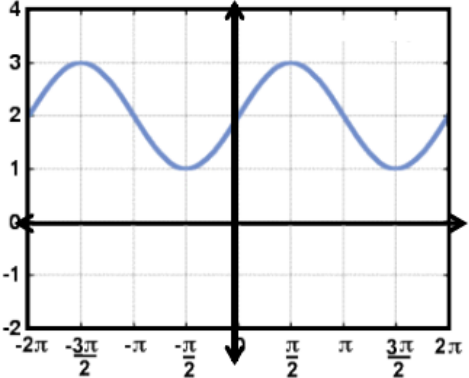
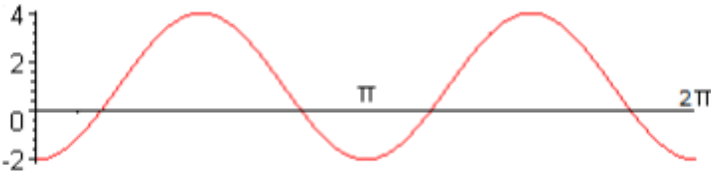
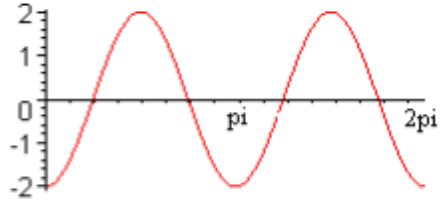
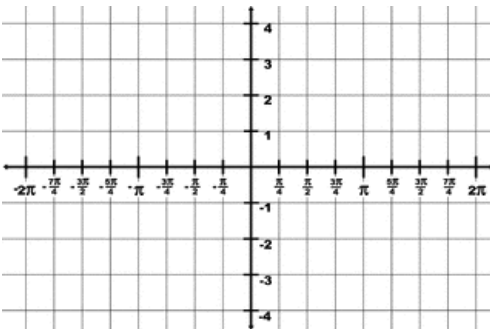
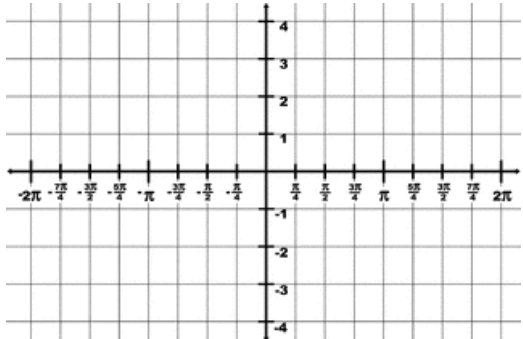


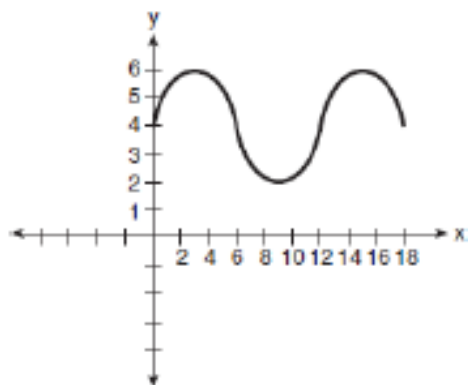
Unit 3 Day 5 HW(1)

Complete the table with the missing information. Graph when necessary.

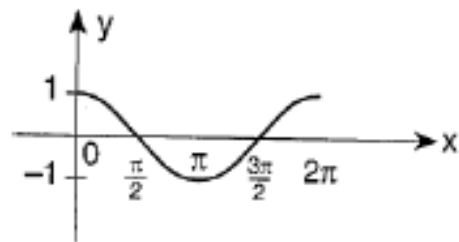
	<p>Midline:</p> <p>Amplitude:</p> <p>Period:</p> <p>Equation:</p>
	<p>Midline:</p> <p>Amplitude:</p> <p>Period:</p> <p>Equation:</p>
	<p>Midline:</p> <p>Amplitude:</p> <p>Period:</p> <p>Equation:</p>
	<p>Equation: <math>y = 3 \sin(x) - 1</math></p> <p>Midline:</p> <p>Amplitude:</p> <p>Period:</p>
	<p>Equation: <math>y = -2 \cos(x) + 1</math></p> <p>Midline:</p> <p>Amplitude:</p> <p>Period:</p>

Unit 3 Day 5 HW(2)

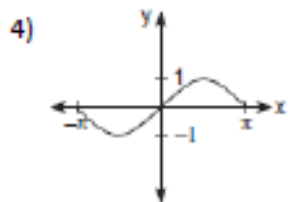
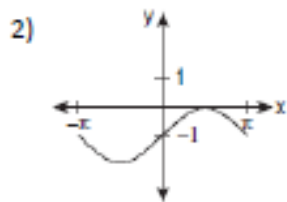
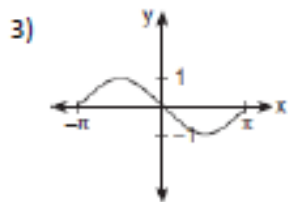
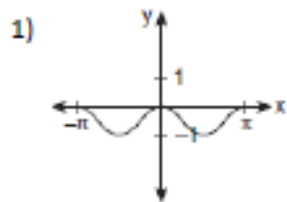
1. What are the midline and amplitude of the sine graph below?



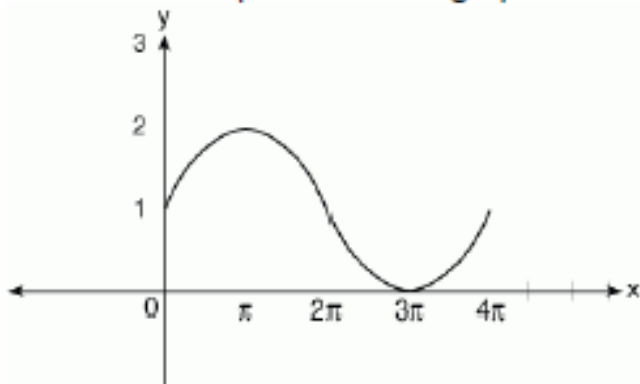
2. The graph below *incorrectly* represents the equation  $y = 2\cos x$ . Write a mathematical explanation of why this graph is incorrect.



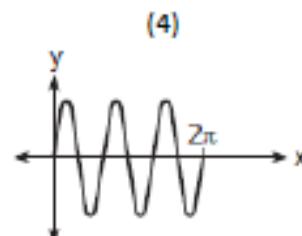
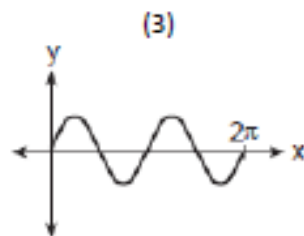
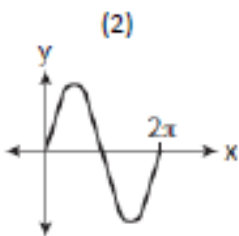
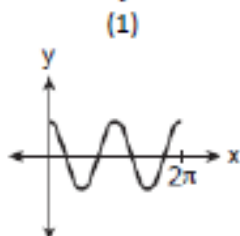
3. Which graph represents the function  $f(x) = -\sin x$  in the interval  $-\pi \leq x \leq \pi$ ?



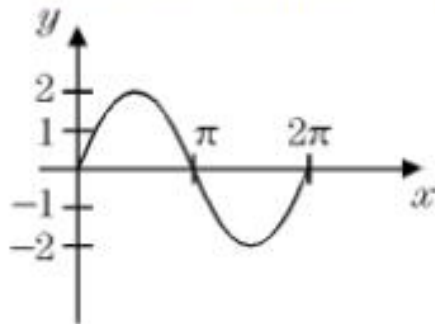
4. What is the amplitude of the graph?



5. Which graph represents a sound wave that follows a curve whose period is  $\pi$  and that is in the form  $y = a\sin bx$ ?

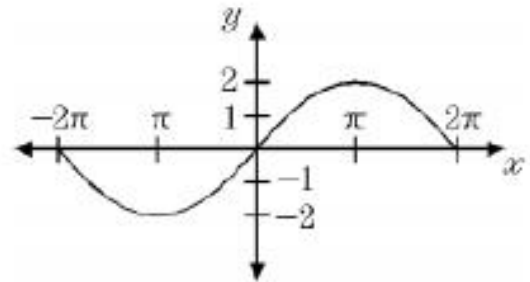


6. What is the equation of the graph below?



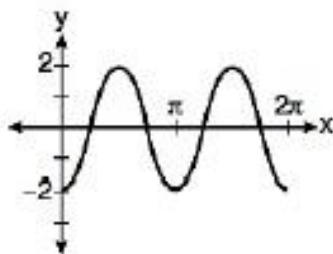
- 1)  $y = \sin 2x$       3)  $y = \cos 2x$   
 2)  $y = 2 \cos x$       4)  $y = 2 \sin x$

7. What is the equation represents the graph below?



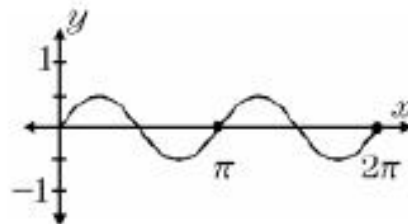
- 1)  $y = 2 \sin 2x$       3)  $y = \frac{1}{2} \sin x$   
 2)  $y = 2 \sin \frac{1}{2}x$       4)  $y = 2 \cos 2x$

8. Which equation represents the graph below?



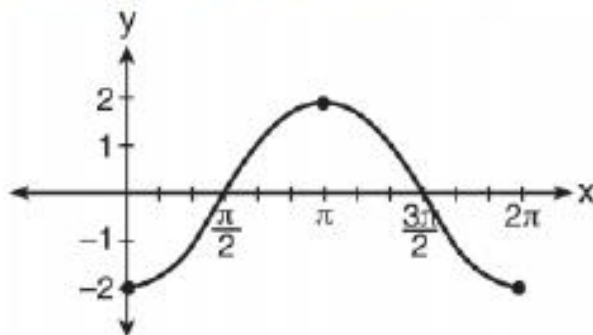
- 1)  $y = -2 \sin 2x$       3)  $y = -2 \cos 2x$   
 2)  $y = -2 \sin \frac{1}{2}x$       4)  $y = -2 \cos \frac{1}{2}x$

9. Which equation is represented in the accompanying graph?

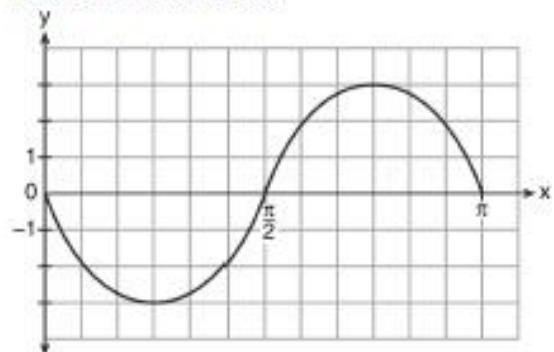


- 1)  $y = 2 \sin 2x$       3)  $y = 2 \sin \frac{1}{2}x$   
 2)  $y = \frac{1}{2} \sin \frac{1}{2}x$       4)  $y = \frac{1}{2} \sin 2x$

10. The accompanying graph shows a trigonometric function. Stat the equation of this function



11. Write an equation for the graph of the trigonometric function shown below.



Unit 3 Day 5 HW(3)

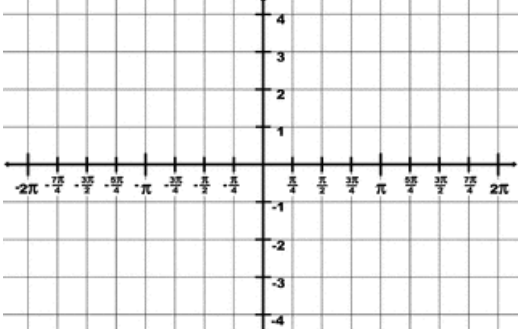
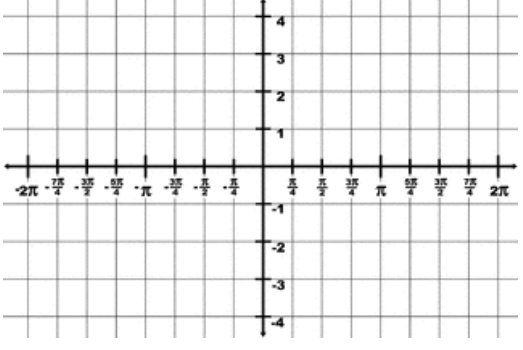
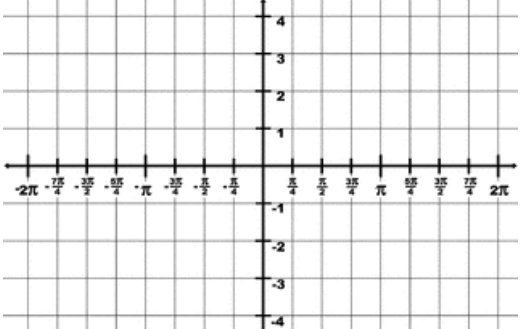
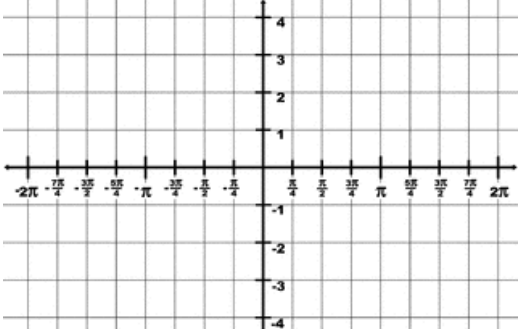
Complete the table with the missing information. Graph when necessary.

	<p>Midline: _____ Vertical Shift: _____</p> <p>Amplitude: _____</p> <p>Period: _____</p> <p>Equation: _____</p>
	<p>Midline: _____ Vertical Shift: _____</p> <p>Amplitude: _____</p> <p>Period: _____</p> <p>Equation: _____</p>
	<p>Midline: _____ Vertical Shift: _____</p> <p>Amplitude: _____</p> <p>Period: _____</p> <p>Equation: _____</p>
	<p>Equation: <math>y = 2\sin(1/2(x - 3)) + 4</math></p> <p>Midline: _____ Vertical Shift: _____</p> <p>Amplitude: _____ Phase Shift: _____</p> <p>Period: _____</p>
	<p>Equation: <math>y = 3\cos(3x + 6) + 2</math></p> <p>Midline: _____ Vertical Shift: _____</p> <p>Amplitude: _____ Phase Shift: _____</p> <p>Period: _____</p>

**Unit 3 Day 5 HW(4)**

<p><b>1)</b> The amplitude of the graph of the equation <math>y = 4 \sin 2x</math> is</p> <p>A. 1      B. 2      C. <math>\frac{1}{2}</math>      D. 4</p>	<p><b>2)</b> What is the period of the function <math>y = 5 \sin 3x</math>?</p> <p>1) 5                                  3) 3 2) <math>\frac{2\pi}{5}</math>                              4) <math>\frac{2\pi}{3}</math></p>
<p><b>3)</b> What is the range of the function <math>y = 3 \sin x</math>?</p> <p>A. <math>y \geq 0</math>                          B. <math>-1 \leq y \leq 1</math> C. <math>y \leq 3</math>                          D. <math>-3 \leq y \leq 3</math></p>	<p><b>4)</b> What is the amplitude of the graph of the equation <math>y = 2 \sin \frac{1}{2} x</math>?</p> <p>1) <math>\frac{1}{2}</math> 2) 2 3) <math>\pi</math> 4) <math>2\pi</math></p>
<p><b>5)</b> If <math>f(x) = 2 \sin 3x + C</math>, then the maximum value of <math>f(x)</math> is:</p> <p>1) <math>C</math> 2) <math>C + 2</math> 3) <math>C + 3</math> 4) <math>C + 6</math></p>	<p><b>6)</b> What is the minimum value of <math>f(\theta)</math> in the equation <math>f(\theta) = 3 \sin 4\theta</math>?</p> <p>1) -1 2) -2 3) -3 4) -4</p>
<p><b>7)</b> The graph of which function has an amplitude of 2 and a period of <math>4\pi</math>?</p> <p>1) <math>y = 2 \sin \frac{1}{2} x</math>      3) <math>y = 4 \sin \frac{1}{2} x</math> 2) <math>y = 2 \sin 4x</math>      4) <math>y = 4 \sin 2x</math></p>	<p><b>8)</b> What is the period of the function <math>y = \frac{1}{2} \sin \left( \frac{x}{3} - \pi \right)</math>?</p> <p>1) <math>\frac{1}{2}</math>                          3) <math>\frac{2}{3} \pi</math> 2) <math>\frac{1}{3}</math>                          4) <math>6\pi</math></p>
<p><b>9)</b> What is the amplitude of the graph of the equation <math>y = 4 \sin \frac{1}{2} x</math>?</p>	<p><b>10)</b> A certain radio wave travels in a path represented by the equation <math>y = 5 \sin 2x</math>. What is the period of this wave?</p>
<p><b>11)</b> The path traveled by a roller coaster is modeled by the equation <math>y = 27 \sin 13x + 30</math>. What is the maximum altitude of the roller coaster?</p>	<p><b>12)</b> The expression <math>3 \sin \frac{1}{2} x</math> reaches its maximum value when <math>x</math>, expressed in radians, equals</p> <p>1) <math>\frac{\pi}{2}</math>                                  3) 3 2) <math>\frac{3}{2}</math>                                  4) <math>\pi</math> 3) <math>\frac{\pi}{2}</math></p>

Unit 3 Day 5 HW(5)

<p>1. Equation: <math>y = \sin 2x - 2</math></p> <p>Midline:                      Vertical Shift:</p> <p>Amplitude:                  Phase Shift:</p> <p>Period:</p>	
<p>2. Equation: <math>y = 3 \cos (\pi x - 2) + 1</math></p> <p>Midline:                      Vertical Shift:</p> <p>Amplitude:                  Phase Shift:</p> <p>Period:</p>	
<p>3. Equation: <math>y = -\sin (\pi x + 1) - 2</math></p> <p>Midline:                      Vertical Shift:</p> <p>Amplitude:                  Phase Shift:</p> <p>Period:</p>	
<p>4. Equation: <math>y = 3 \cos \frac{1}{2} x</math></p> <p>Midline:                      Vertical Shift:</p> <p>Amplitude:                  Phase Shift:</p> <p>Period:</p>	
<p>5. Equation: <math>y = \sin (2x - \pi) + 1</math></p> <p>Midline:                      Vertical Shift:</p> <p>Amplitude:                  Phase Shift:</p> <p>Period:</p>	