

3.6A Sinusoidal Function Transformations

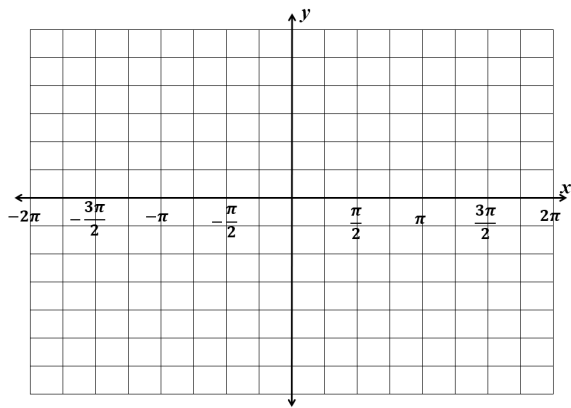
AP Precalculus

Name: _____

Identify the given information and graph the trig function.

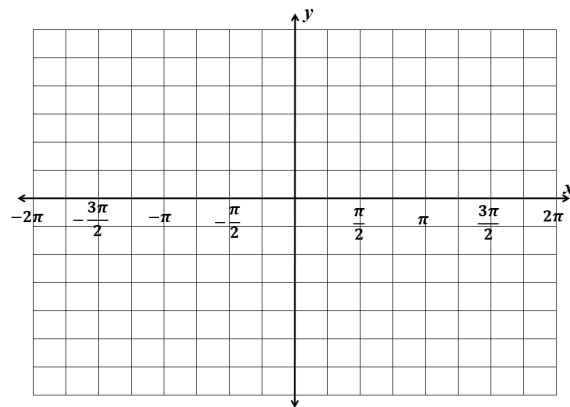
1. $y = -\cos 2x$

Amp: _____ Period: _____
 Midline: _____ Freq: _____
 Max value: _____ Min value: _____



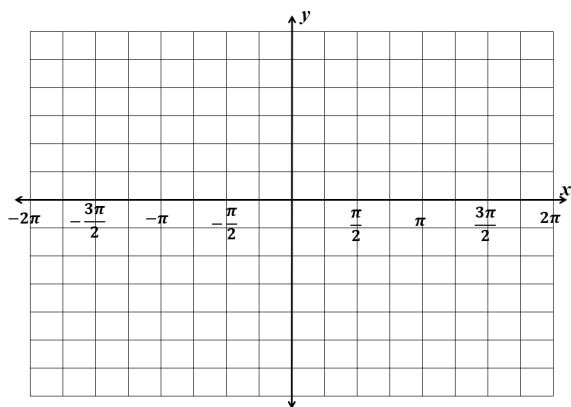
2. $y = 3 \sin \frac{1}{2}x$

Amp: _____ Period: _____
 Midline: _____ Freq: _____
 Max value: _____ Min value: _____



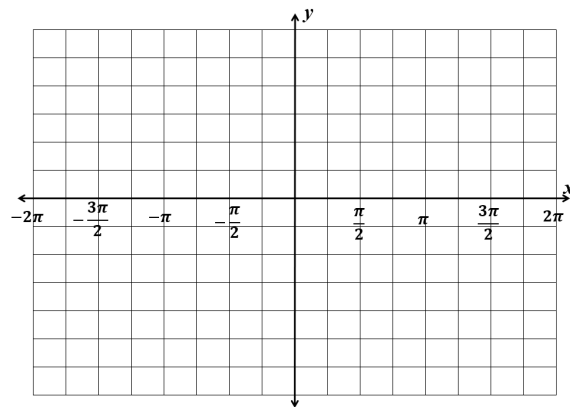
3. $y = 1 - 3 \sin 4x$

Amp: _____ Period: _____
 Midline: _____ Freq: _____
 Max value: _____ Min value: _____



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

Amp: _____ Period: _____
 Midline: _____ Freq: _____
 Max value: _____ Min value: _____



Use the given information to create a sine function.

5.

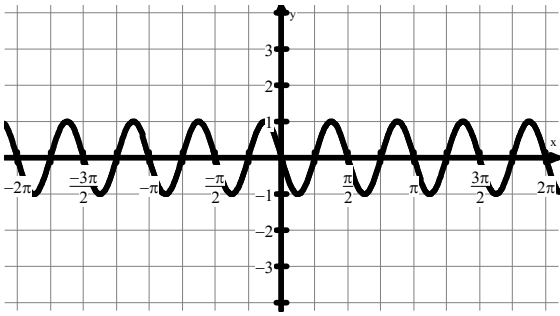
Amplitude: 11
 Period: 6π
 Vertical Shift: up 3

6.

Amplitude: 6
 Period: $\frac{1}{4}$
 Vertical Shift: up 7

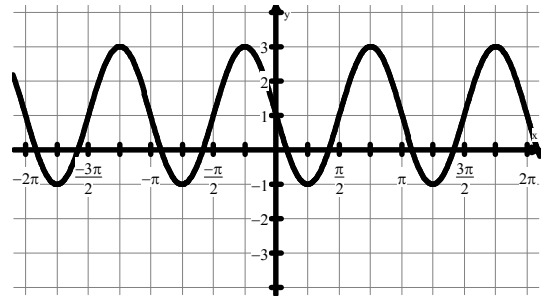
Write the equation of the following *sine* curves.

7.



$y =$ _____

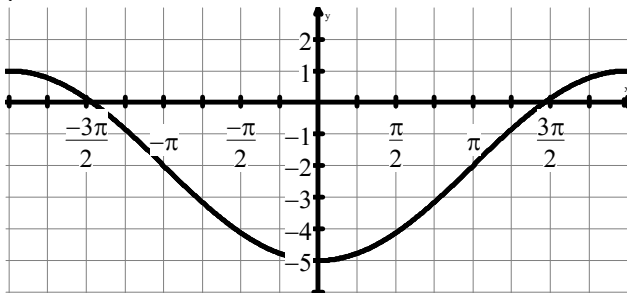
8.



$y =$ _____

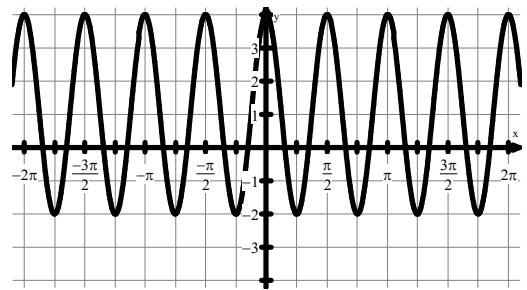
Write the equation of the following *cosine* curves.

9.



$y =$ _____

10.



$y =$ _____

Answers to 3.6A CA #1

<p>1. Amp: 1 Period: π Midline: $y = 0$ Freq: $\frac{1}{\pi}$ Max: 1 Min: -1</p>	<p>2. Amp: 3 Period: 4π Midline: $y = 0$ Freq: $\frac{1}{4\pi}$ Max: 3 Min: -3</p>	<p>3. Amp: 3 Period: $\frac{\pi}{2}$ Midline: $y = 1$ Freq: $\frac{2}{\pi}$ Max: 4 Min: -2</p>
<p>4. Amp: 2 Period: 6π Midline: $y = -1$ Freq: $\frac{1}{6\pi}$ Max: 1 Min: -3</p>	<p>5. $y = 11 \sin\left(\frac{1}{3}x\right) + 3$</p>	<p>6. $y = 6 \sin(8\pi x) + 7$</p>
<p>7. $y = -\sin 4x$</p>	<p>8. $y = 1 - 2 \sin(2x)$</p>	
<p>9. $y = -3 \cos\left(\frac{x}{2}\right) - 2$</p>		<p>10. $y = 3 \cos(4x) + 1$</p>