

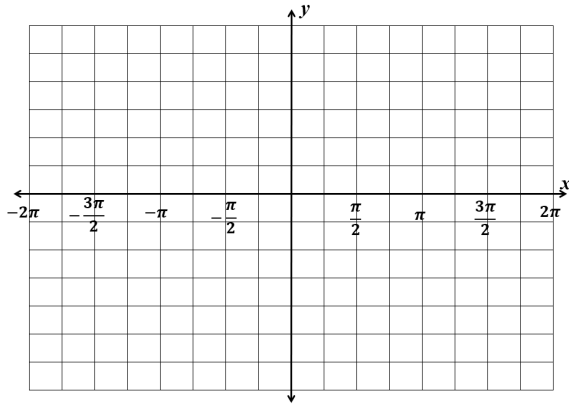
### 3.6B Sinusoidal Functions Transformations

AP Precalculus

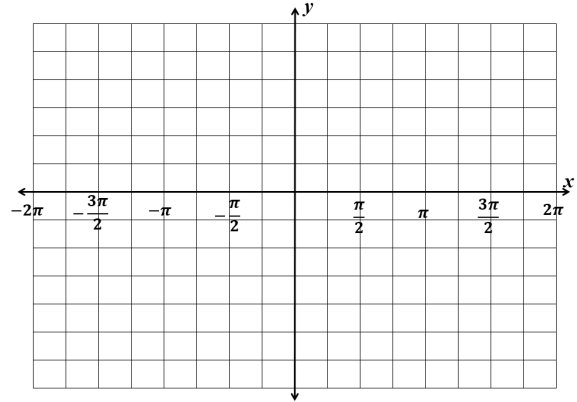
Name: \_\_\_\_\_

**Graph the trig function.**

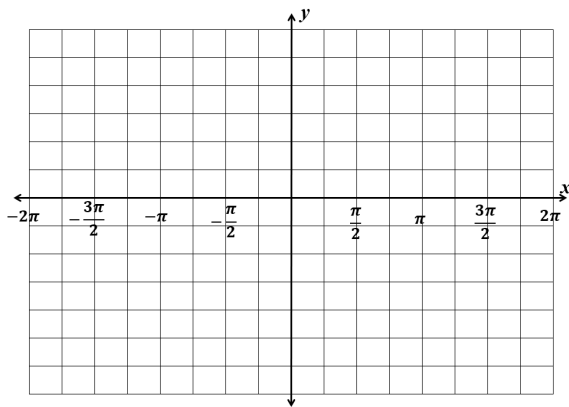
1.  $3 \cos\left(x - \frac{3\pi}{4}\right) - 1$



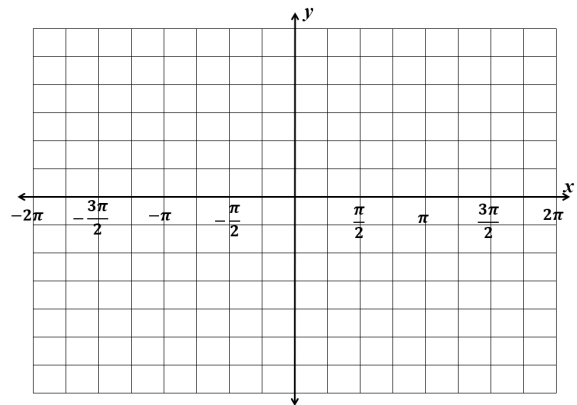
2.  $2 \sin\left(3\left(x + \frac{\pi}{4}\right)\right) + 2$



3.  $y = -3 \cos\left(2x - \frac{\pi}{4}\right) + 1$



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



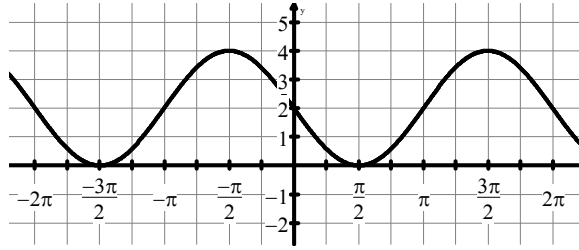
**Create a sine function that has the following attributes.**

5.  
 Amplitude: 8  
 Period:  $\frac{\pi}{3}$   
 Phase Shift: left  $\frac{\pi}{9}$   
 Vertical Shift: up 4

6.  
 Amplitude: 2  
 Period:  $\frac{5\pi}{6}$   
 Phase Shift: right  $\frac{10\pi}{7}$   
 Vertical Shift: down 3

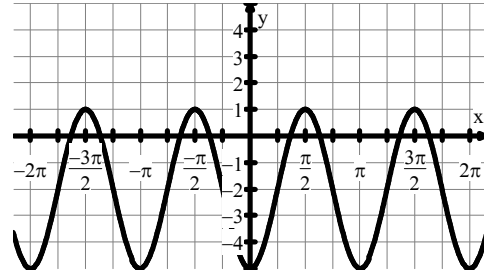
Write the equation of the following sine curves.

7.



$y =$  \_\_\_\_\_

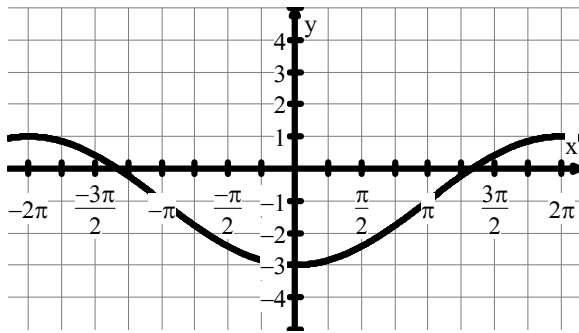
8.



$y =$  \_\_\_\_\_

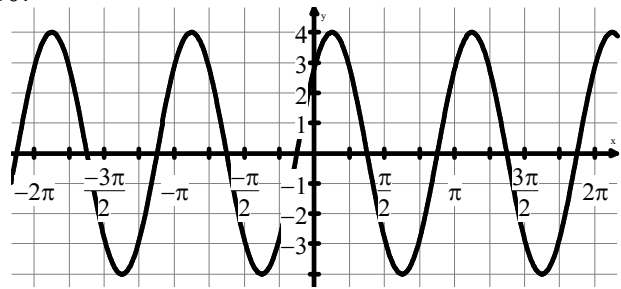
Write the equation of the following cosine curves.

9.



$y =$  \_\_\_\_\_

10.



$y =$  \_\_\_\_\_

<p>10. <math>y = 4 \cos\left(2x - \frac{\pi}{4}\right)</math></p>	<p>9. <math>y = 2 \cos\left(\frac{\pi}{2}x - \pi\right) - 1</math></p>	
<p>8. <math>y = 3 \sin\left(2x - \frac{\pi}{2}\right) - 2</math></p>	<p>7. <math>y = 2 \sin(x - \pi) + 2</math></p>	
<p>6. <math>y = 2 \sin\left(\frac{5}{12}x - \frac{7}{24\pi}\right) - 3</math></p>	<p>5. <math>y = 8 \sin\left(6x + \frac{3}{2\pi}\right) + 4</math></p>	