

**W4 – 5.3 Transformations of Trig Functions**

**MHF4U**

*Jensen*

1) For each function, fill in the table of information and then graph two cycles of the transformed function using transformations of the parent function. Choose an appropriate scale.

a)  $y = 5 \sin(3x)$

Amplitude:	Period:
Phase shift:	Vertical shift:
Max:	Min:

$x$	$y$



**b)**  $y = -3 \cos\left(\frac{3}{4}x\right)$

Amplitude:	Period:
Phase shift:	Vertical shift:
Max:	Min:

<i>x</i>	<i>y</i>



c)  $y = 4 \sin \left[ 3 \left( x - \frac{\pi}{3} \right) \right] - 2$

Amplitude:	Period:
Phase shift:	Vertical shift:
Max:	Min:

<i>x</i>	<i>y</i>



**d)**  $y = 2 \sin \left[ \frac{1}{2} \left( x + \frac{5\pi}{6} \right) \right] + 4$

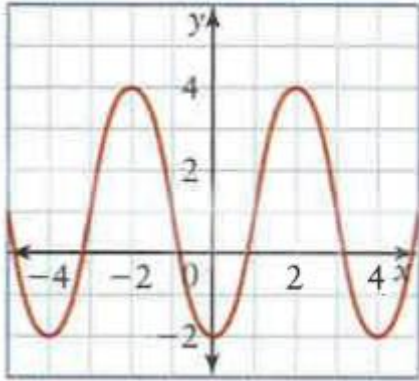
Amplitude:	Period:
Phase shift:	Vertical shift:
Max:	Min:

<i>x</i>	<i>y</i>

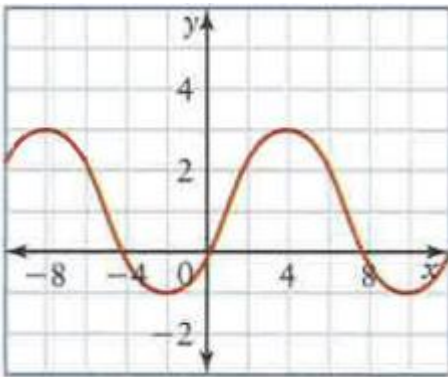


2) Model each graph shown as a sine and cosine function.

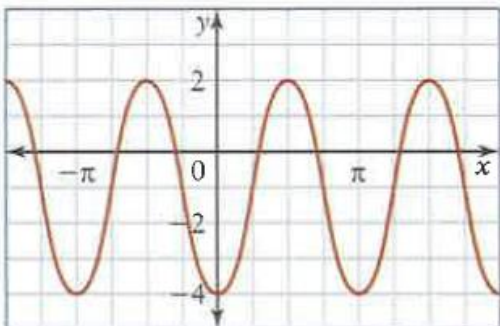
a)



b)



c)



**3)** A sine function has a maximum value of 7, a minimum value of -1, a phase shift of  $\frac{3\pi}{4}$  radians to the left, and a period of  $\frac{\pi}{2}$ .

**a)** Write an equation for this function.

**b)** Write an equivalent cosine equation for this function.

**4)** A cosine function has a maximum value of 1, a minimum value of -5, a phase shift of 2 radians to the right, and a period of 3.

**a)** Write an equation for this function.

**b)** Write an equivalent sine equation for this function.