

Assignment due 9:00 am May 14, 2012. Late assignments receive no credit.

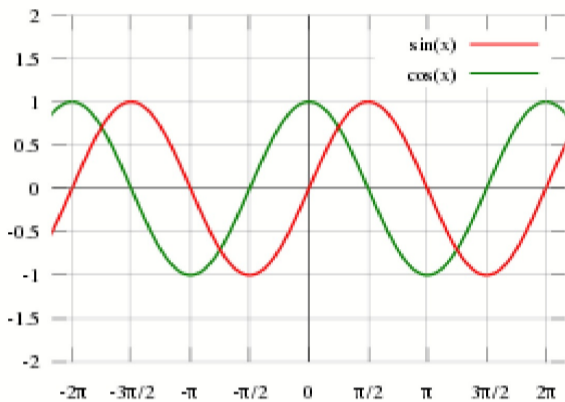
1. If the amplitude of a sine wave is 4 and its maximum is 1 and its minimum is -7, what is its vertical displacement?

2. If the amplitude of a cosine function is 4, its phase shift is 5 and its vertical displacement is -3, what is its maximum value?

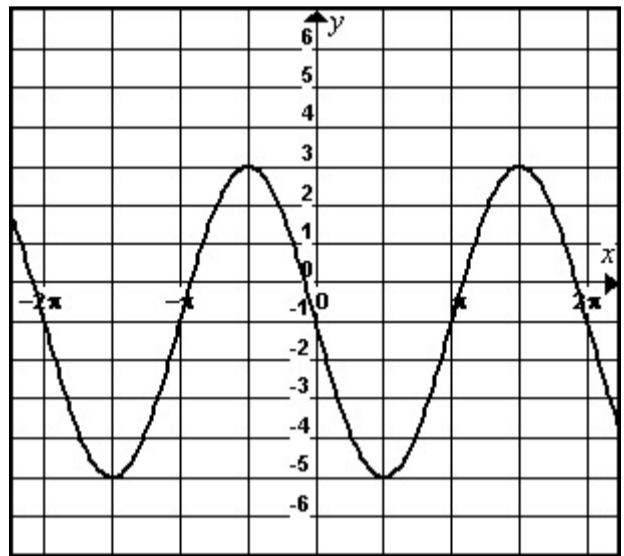
3. What is the period of  $y = -4 \sin(3(x - \frac{\pi}{3})) + 5$ ?

4. If one cycle of a sine function begins at  $\frac{\pi}{2}$  and ends  $\frac{7\pi}{2}$ , what is its period and its "b" value?

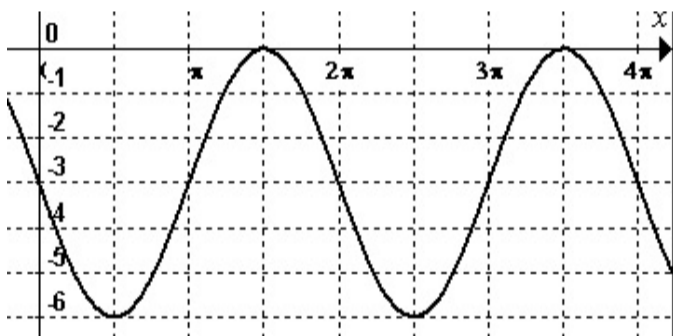
5. Use the graph below to estimate the value of  $\cos(-\frac{\pi}{4})$  and use an arrow to indicate where you found this value.



6. Determine the equation of the cosine function pictured below.



7. Determine the equation of the cosine function pictured below.



8. Complete the table of values and draw the graph of

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

9. Complete the table of values and draw the graph of  $y = 2 \cos(0.5(x + \frac{\pi}{2})) + 2$



