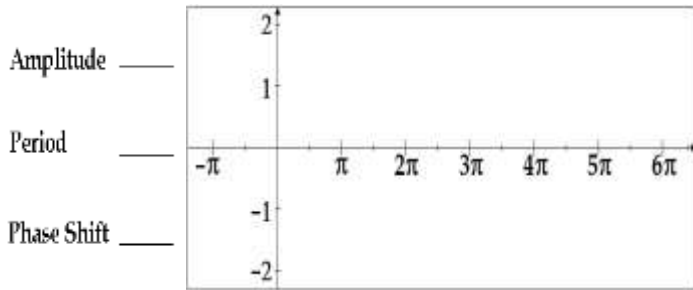
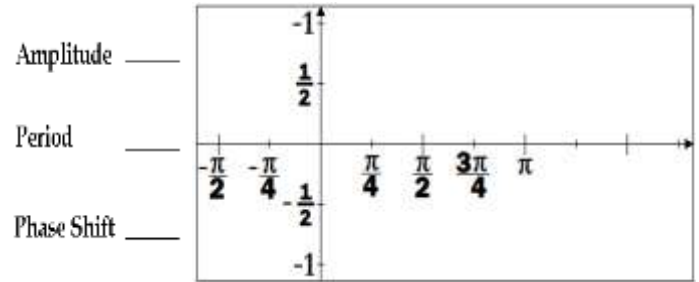


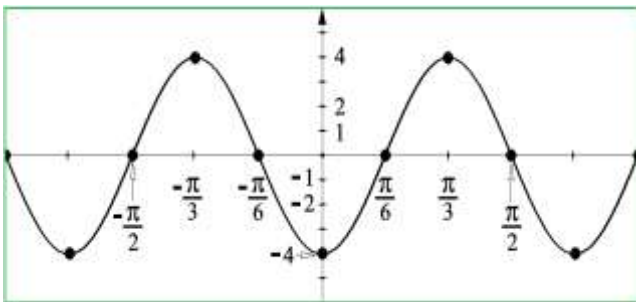
- (1) Find the amplitude, period, and phase shift and graph $y = 2\cos\left(\frac{1}{2}x - \frac{\pi}{2}\right)$



- (2) Find the amplitude, period, and phase shift and graph. $y = -\frac{1}{2}\sin(2x)$



- (3) The graph is shown below,



- (a) Find ,
Amplitude =

- (b) Find ,
a = _____

Period =

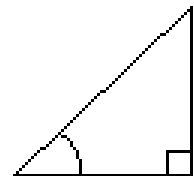
b = _____

Phase Shift =

c = _____

- (c) Write the equation in the form $y = a\sin(bx + c)$ for $a > 0$, $b > 0$, and the least such positive real number c .

- (4) Given below are the indicated parts of the triangle $\triangle ABC$ with $\gamma = 90^\circ$, **approximate** the remaining parts if given that $c = 23.0$, $\beta = 19^\circ 20'$. (Note: β is beta, not "b")



Extra Credit:

(1) If θ is an angle and θ_r is its reference angle then **what** is the reference angle for θ_r ?

(2) In a right triangle, if α and β are the other two interior angles besides the right angle, how big can α be and still be complementary to β ?

(3) Does $2 = \frac{1.999999\dots}{0.999999\dots}$ (where the 9's go on forever in both the numerator and denominator) ?