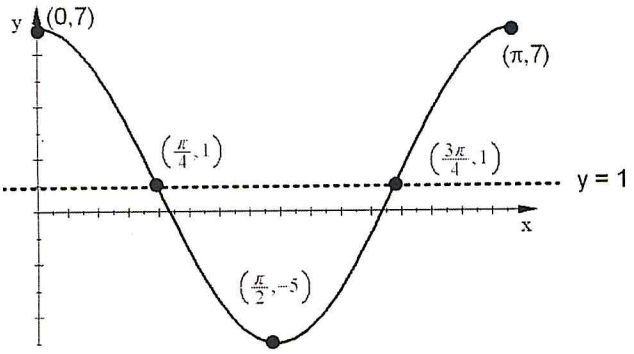
Algebra 2 Sec 13-7 Translations of Sine and Cosine Functions
Spring 2014

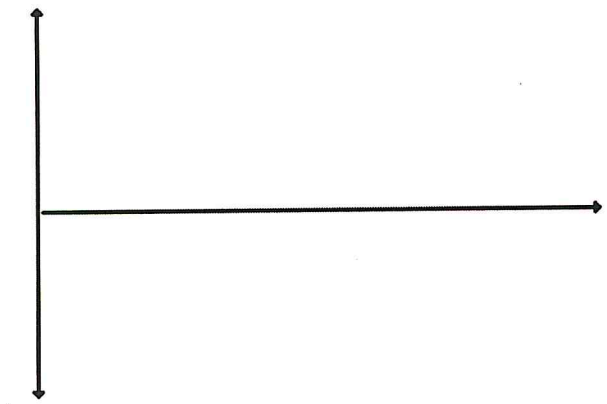
In the equations $y = a\text{Sin}bx \pm c$ and $y = a\cos bx \pm c$ c represents a vertical translation of c units.

This vertical translation affects the equation of the Midline and also affects the y-coordinates of all the points on the function.

For example: The equation $y = 6\text{Cos}2x + 1$ Has an amplitude of 6 and a midline $y = 1$. Therefore the three points on the midline will all have a y-coordinate of 1, the Maximum will have a y-coordinate of 7 and the Minimum will have a y-coordinate of -5. None of the x-coordinates will be affected. The graph below shows the graph of this function.



Graph one period of the following function. Label the coordinates of the maximums, minimums, and zeros. $y = 4\text{Sin}3x - 2$



Write the equation of the Cosine function below.