

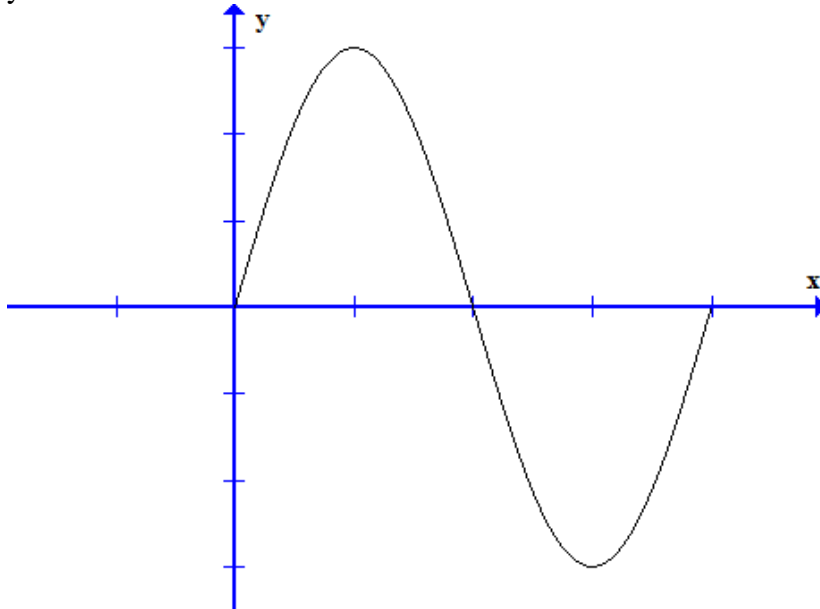
Graph $y = -6\sin 3x + 1$

We start by calculating the amplitude and period:

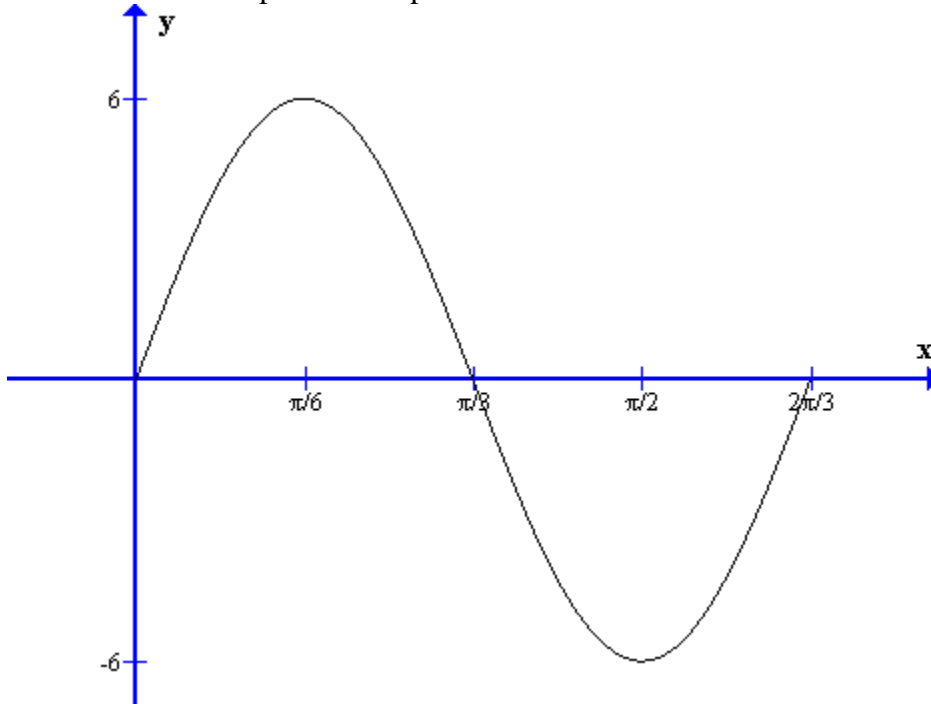
$$\text{Amplitude} = |A| = |6| = 6$$

$$\text{Period} = \frac{2\pi}{|B|} = \frac{2\pi}{3}$$

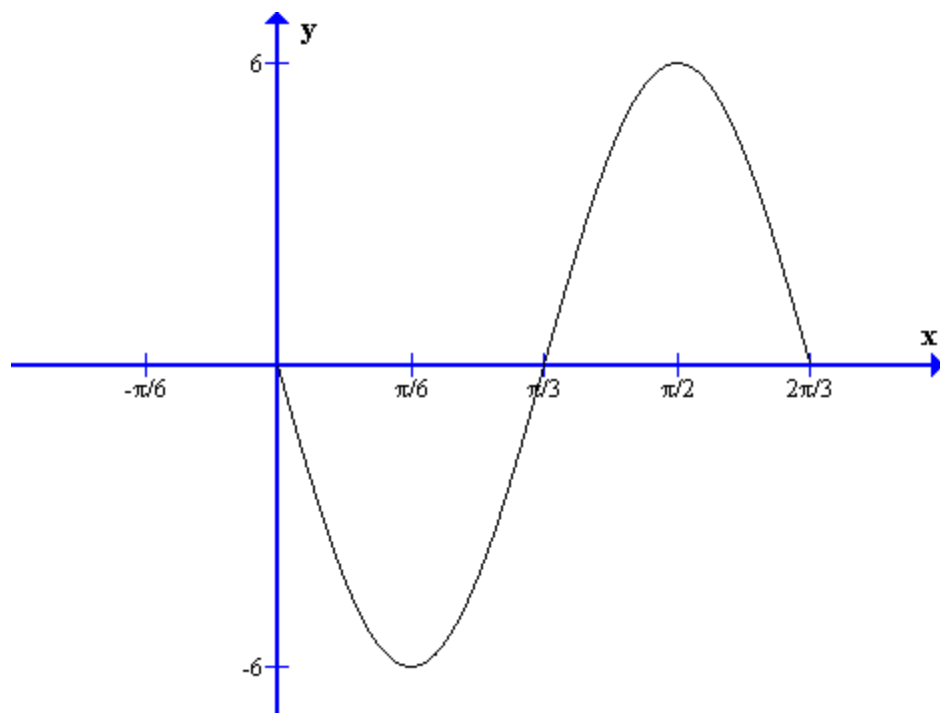
Our first scratch graph takes into account only the amplitude and period. That is, we graph only $y = 6\sin 3x$. We start with the memorized sine wave:



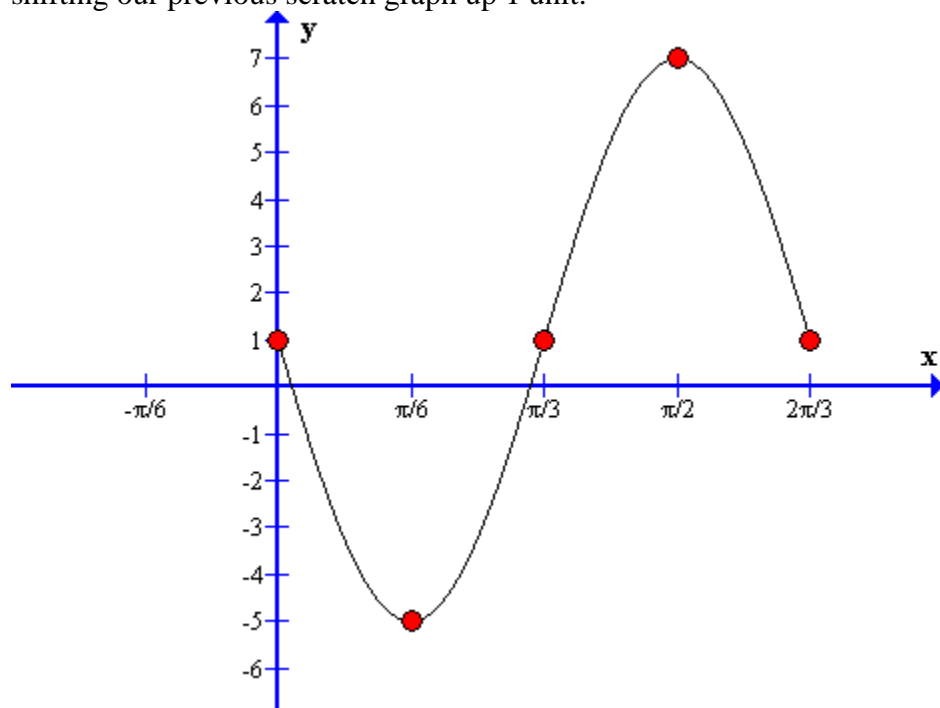
Now we use the amplitude and period to label the axes:



Our second scratch graph is $y = -6\sin 3x$. We get this graph by reflecting our previous graph across the x-axis.



Our final scratch graph is the function you were given: $y = -6\sin 3x + 1$. We obtain this graph by shifting our previous scratch graph up 1 unit.



On a test, I will give you an interval along with the equation. If, for example, I give you the interval $0 \leq x \leq 2\pi$, then you have to draw 2 more cycles of the graph and your final graph will look like this:

