

This graph has the shape of a cosine function. The amplitude of this graph and $y = 3\cos\left(-\frac{1}{2}x\right)$ is 3.

This graph has one cycle on the interval $[-2\pi, 2\pi]$, so it has a period of 4π . The function $y = 3\cos\left(-\frac{1}{2}x\right)$ has a period equal to $\frac{2\pi}{\left|-\frac{1}{2}\right|} = \frac{2\pi}{1} \cdot \frac{2}{1} = 4\pi$.

The effect of the negative sign is to reflect the graph around the y -axis. However, because the graph of cosine is symmetric, this has no effect at all. So the graph and the function match.