

This has the general shape of the graph of a cosine function. The amplitude of this graph and $y = 4\cos\left(\frac{1}{2}x\right)$ is 4.

This graph has 1 cycle on the interval $[0, 4\pi]$, so it has a period of 4π . The function $y = 4\cos\left(\frac{1}{2}x\right)$ has a period of

$$\frac{2\pi}{\frac{1}{2}} = \frac{2\pi}{1} \cdot \frac{2}{1} = 4\pi.$$

So the graph and the function match.