

This graph has the general shape of a sine function, so $y = a\sin bx$. The amplitude is 4. It does not have the same orientation as the graph of $y = \sin x$. Because a reflection has taken place, $a = -4$.

Now there is 1 cycle shown on the interval $[-3\pi, 3\pi]$, so the period is 6π . Therefore, $6\pi = \frac{2\pi}{|b|}$. It follows that you could have $b = \frac{1}{3}$. So this could be the graph of $y = -4\sin\left(\frac{1}{3}x\right)$.