

Because the low point is $\left(\frac{1}{2}, -5\right)$, the depth of the valley is 5. This is the amplitude of the function that was graphed. The amplitude of $y = 5 \cdot \cos 2\pi x$ is also 5.

The length of one cycle is 1. This is equal to the period of the function that was graphed. Now $y = 5 \cdot \cos 2\pi x$ has a period equal to $\frac{2\pi}{2\pi} = 1$. So this could be the function that was graphed.