The amplitude and the period for this function match those of the graph, but you did not check the orientation. The graph of $y = \sin x$ has a valley to the left of the y-axis and a hill to the right. These are reversed on the graph shown, so a reflection has taken place. This has an effect on the coefficient. The correct answer is $y = -4\sin\left(\dfrac{1}{3}x\right)$.