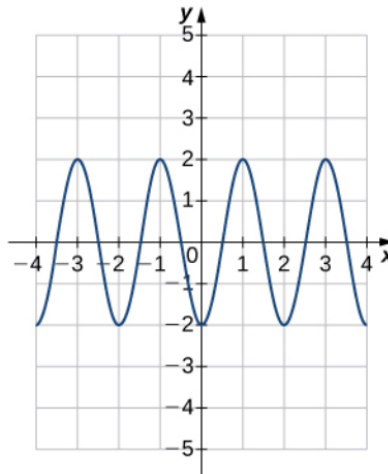


Exercise 164

For the following exercises, each graph is of the form $y = A \sin Bx$ or $y = A \cos Bx$, where $B > 0$. Write the equation of the graph.



Solution

The amplitude is 2, and one cycle is completed in 2 units. The period is then $B = 2\pi/2 = \pi$. Therefore,

$$y = -2 \cos(\pi x).$$

There's a negative sign because at $x = 0$ the y -value is -2 as opposed to $+2$.