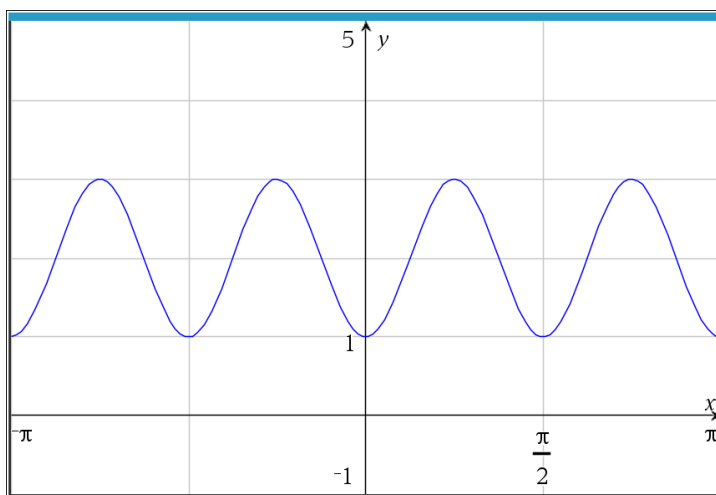


Practice Problem 1



A portion of the graph of a sinusoidal function g in the xy plane is given for $-\pi \leq x \leq \pi$. Which of the following could define $g(x)$?

- (a) $1 + \sin(4x)$
- (b) $1 - \cos(4x)$
- (c) $2 + \sin(4x)$
- (d) $2 - \cos(4x)$

Practice Problem 2

The function h is given by $h(x) = \cos x$. In the xy -plane, the graph of k is the image of h after a translation of $\frac{\pi}{3}$ to the right. Which of the following define $k(x)$?

- (a) $\cos\left(x + \frac{\pi}{3}\right)$
- (b) $\cos x + \frac{\pi}{3}$
- (c) $\cos\left(x - \frac{\pi}{3}\right)$
- (d) $\cos x - \frac{\pi}{3}$

Practice Problem 1 Solution:

(d) $2 - \cos(4x)$

From the given choices, the graph has been vertical translated up 2, there are 4 complete curves from $-\pi \leq x \leq \pi$, and on the y - axis, the graph is starting at a minimum which means it is a reflected cosine function over the x - axis.

Practice Problem 2 Solution:

(c) $\cos\left(x - \frac{\pi}{3}\right)$

Since this is a horizontal translation (to the right), the value must affect the x (input) only, and with it moving right, it must be of the form $x - \frac{\pi}{3}$.

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