

Start with $g(x) = \sin(x)$.

Hint: Make sure you got the correct function by graphing it on some electronic gadget.

- Define $g_A(x)$ to change the amplitude of g to 2.
- Define $g_B(x)$ to change the amplitude of g to $1/2$.
- Define $g_C(x)$ to change the period to π .
- Define $g_D(x)$ to change the period to 4π .

Solution:

Use formula $g(x) = A \cdot \sin(\omega x)$

$$\omega = 2\pi/T$$

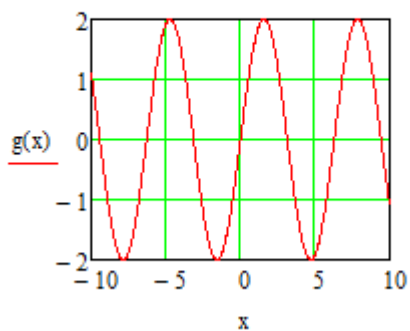
T – period

$\sin(x)$ is 2π period function

- Define $g_A(x)$ to change the amplitude of g to 2.

$$A=2$$

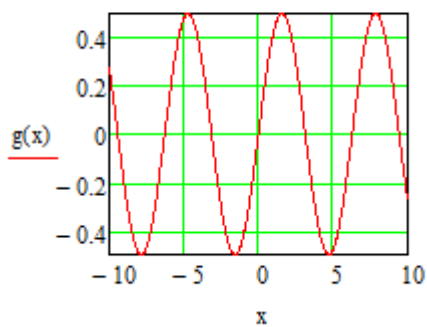
$$g(x) := 2 \sin(x)$$



- Define $g_B(x)$ to change the amplitude of g to $1/2$.

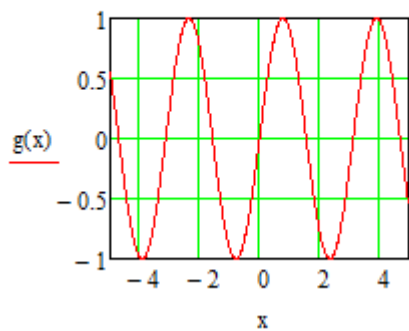
$$A=1/2$$

$$g(x) := \frac{1}{2} \sin(x)$$



- 3) c) Define $g_C(x)$ to change the period to π .
 $\omega = 2\pi/\pi=2$

$$g(x) := \sin(2x)$$



- 4) Define $g_D(x)$ to change the period to 4π .
 $\omega = 2\pi/4\pi=1/2$

$$g(x) := \sin\left(\frac{1}{2}x\right)$$

