

1 Let  $s$  be the function such that

$$s(t) = -t^3 - 4t$$

for every possible real number  $t$ . Evaluate  $s(-2)$ . (Show at least one intermediate step.)

I change every appearance of  $t$  to  $-2$  (in parentheses, just in case) and simplify:

$$s(-2) = -(-2)^3 - 4(-2) = -(-8) - (-8) = 8 + 8 = 16.$$

2 Suppose that

$$2x + y = 10$$

for every possible real number  $x$ . Is there a function that makes  $y$  a function of  $x$ ? (Show what you do to this equation to decide.)

I try to solve for  $y$ :

$$2x + y = 10;$$

$$y = -2x + 10.$$

Since there is only one solution (for any given value of  $x$ ),  $y$  is a **function** of  $x$ . (Explicitly,  $y = f(x)$ , where  $f(x) = -2x + 10$  for every possible value of  $x$ .)