

Function Notation

9th Grade

$f(x)$ is not multiplication — and everything else follows from getting that right.

$f(x)$ names the output of the function f when the input is x . The brackets mean substitution, not multiplication.

$$f(x) = 2x + 1 \rightarrow f(3) = 7$$

$$f(x) = 2x + 1, \text{ find } f(3)$$

7

Substitute 3 for every x .

$$f(x) = x^2, \text{ find } f(-4)$$

16

$(-4)^2 = 16$, not -16 .

$$f(a + 1)$$

$$2(a+1) + 1 = 2a + 3$$

Substitute the whole expression.

$$f(x) = 5, \text{ solve}$$

any x giving output 5

Now you are solving, not evaluating.

THE COMMON MISTAKE

✗ $f(3)$ means $f \times 3$

✓ $f(3)$ means the output when $x = 3$

Function notation borrows bracket notation. It does not mean multiply.

$g(x)$, $h(x)$, $P(t)$ — the letter is just a name. The idea is identical.