Given $f(x) = x^2 + 2x - 1$ Same as $y = x^2 + 2x - 1$

Find $f(3) = (3)^2 + 2(3) - 1 = 14$

Same as find y when x = 3

What is Function Notation?

- Another way to write y=
- Instead of writing $y = x^2 + 1$

  Function Notation writes it as: $f(x) = x^2 + 1$
- How do you say: f(x) "f of x"
- f is the function name
- x is the independent variable (domain)

y = x + 1 (Input, Output)

f(x) = 2x - 3 (Input, Output)

Given: y = 2x +7

Find y when x = 3 y = 2(3) + 7

In Function Notation:

y = 2x +7 ⟶ f(x) = 2x + 7

Find y when x = 3 ⟶ Find f(3) f(3) = 2(3) +7

Given: $g(x) = x^2 + 2x - 1$

Find each of the following:

1. g(5) $y = 25 + 10 - 1$, $g(5) = 34$
2. g(0) $0^2 + 2(0) - 1$, $0 - 1 = -1$ (y-int)
3. g(w) $y = w^2 + 2w - 1$
4. g(a+3) $g(a+3) =$ $a^2 + 8a + 14$

Given: f(x)= 2x + 6 and g(x) = x-1

What do you think f(g(x)) is?

$f(x-1) = 2(x-1) + 6$

$2x - 2 + 6$

$2x + 4$

Composite functions

Given $g(x) = x^2 - 2x$

Find the Range for the following Domain: $\{-5, 0, 2, 5\}$

$g(-5) = 35$

$g(0) = 0$

$g(2) = 0$

$g(5) = 15$

Range $\{0, 15, 35\}$