

TOPIC: FUNCTION NOTATION

Function Notation

◆ If an equation is a function, we can write it using **function notation** $y = f(x)$, read as " f ____ x ".

► $f(x)$ represents the y -value that corresponds to the given x -value. Ex: $f(1)$ is the y -value when $x = 1$.

EXAMPLE

Evaluate $f(x) = 3x - 1$ at $x = 4$. *Hint: Plug 4 in for x & simplify.*

New **Function Notation**

$$y = 3x - 1$$

↓

$$f(x) = 3x - 1$$

Function name Input Expression

$$f() =$$

◆ You may see functions represented using different letters (_____) or without the "of x " (_____).

EXAMPLE

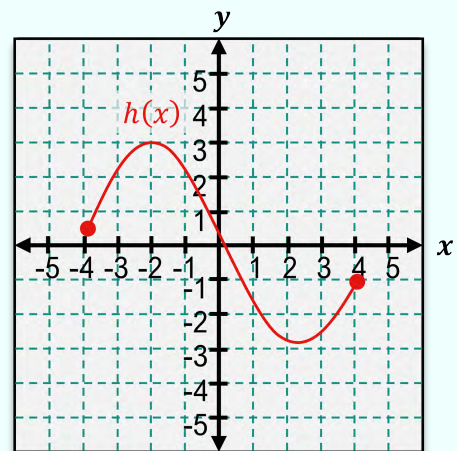
Evaluate the functions at the given input.

(A)

$$g = \{(-2, 3), (1, 5), (3, 2)\}$$

$$g(1) =$$

(B)



$$h(-2) =$$

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PRACTICE

Find $f(-3)$ for the following functions.

(A)

$$f(x) = 2x^2 - 4x + 1$$

(B)

$$f(x) = \frac{x + 4}{x - 1}$$

EXAMPLE

Define the function $f(x)$ that defines y as a function of x in each equation. *Hint: Solve for y first.*

(A)

$$3x - 2y = 8$$

(B)

$$4x + 5y = 15$$

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EXAMPLE

The given table shows the percentage of the U.S. population using the internet over the years indicated.

- (A) Does the table define a function?
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- (B) What are the domain and range?
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- (C) If the function is defined as f , find $f(2015)$. What does this mean?
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- (D) If $f(x) = 92.0$, what does x equal to?

Year	Internet Usage (% of population)
2000	43.1
2005	68.0
2010	74.0
2015	88.5
2020	90.0
2022	92.0