

Section 1.3 - Input - Output of a Function

Learning Goal:

By the end of today I will be able to input values into a function and calculate the appropriate output values, and recognize these values as coordinates on a graph.

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WORKING WITH FUNCTION NOTATION



xy-notation

$$y = 3x - 1$$

Solution is (x,y)

function notation

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

Solution is (x, f(x))

 $f(x)$ is function notation

$$f(x) = y$$

 $f(x)$ is said "f of x"

We can use any variables to denote a function

Examples include...

$$f(x), g(x), V(t), D(s), h(t)$$

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Function notation is used when we want to substitute values in for the independent variable.

- ① Given $f(x) = x^2 - 3x + 1$, find the value of $f(x)$ when $x=2$ and, -3 .

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

$$= 4 - 6 + 1$$

$$= -1$$

$(2, -1)$ is a point on the graph.

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

$$= 9 + 9 + 1$$

$$= 19$$

$(-3, 19)$ is a point on the graph.

- ② $f(x) = 2x - 6$

$$f(2) =$$

$$f(-1) =$$

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③ $f(x) = 3x^2 - 5$

$$f(1) =$$

$$f(-2) =$$

④ $g(x) = (x + 1)^2 - 2$

$$g(4) =$$

$$g(-2) =$$

⑤ $h(x) = (x - 3) / 2$

$$h(0) =$$

$$h(7) =$$

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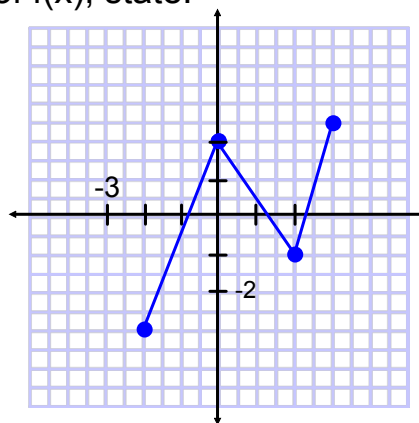
6 Given the graph of $f(x)$, state:

$$f(-2) =$$

$$f(0) =$$

$$f(2) =$$

$$f(3) =$$



7 If $g(x) = 2x^2 - 5$, find the following:

$$g(m) =$$

$$g(2x) =$$

$$g(x^2) =$$

$$g(5) - g(3) =$$

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PRACTICE

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Mid Chapter Review

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