

Name: \_\_\_\_\_

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Notes

Algebra Section 4.7

Pages 262-268

**Goal:** "You will use function notation"



**Function Notation:**

$$f(x) = mx + b$$

$f(x)$  is  $y$

$x$  is still the input. It does not mean  $f \cdot x$

Now instead of calling  $y$  the output, it is being called  $f(x)$

While  $f$  is typically the most common function name, other common functions are:  $g(x)$  and  $h(x)$

$f(7)$  would just mean to substitute 7 in for  $x$  into the given function.

**Finding an output given an input.**

Example: What is the value of the function  $f(x) = 3x - 15$  when  $x = -3$ ?

$$f(-3) = 3(-3) - 15$$

$$f(-3) = -9 - 15$$

$$f(-3) = -24$$

Try These

1) Evaluate  $h(x) = -7x$  when  $x = 7$

$$h(7) = -7(7)$$

$$h(7) = -49$$

2) What is the value of the function  $f(x) = 2x + 12$  when  $x = -8$ ?

$$f(-8) = 2(-8) + 12$$

$$f(-8) = -16 + 12$$

$$f(-8) = -4$$

**Finding an input given an output.**

Example: For the function  $f(x) = 2x - 10$ , find the value of  $x$  so that  $f(x) = 6$ .

$$6 = 2x - 10$$

$$16 = 2x$$

$$8 = x$$

Try This:

For the function  $f(x) = -2x + 4$ , find the value of  $x$  so that  $f(x) = 16$ .

$$16 = -2x + 4$$

$$12 = -2x$$

$$-6 = x$$