Function Equations
Function Notation

$f(\overset{\uparrow}{x}) = \underbrace{x+4}$
input   makes the output

$f(x) = 2x - 5$ Find $f(4)$
$f(4) = 2(4) - 5$
$f(4) = 8 - 5$
$f(4) = 3$

Find $f(-3)$
$f(-3) = 2(-3) - 5$
$f(-3) = -6 - 5$
$f(-3) = -11$

$f(x) = x^2 - 4$ Find $f(5)$
$f(5) = (5)^2 - 4$
$25 - 4$
19

Find $f(-4)$
$f(-4) = (-4)^2 - 4$
$16 - 4$
$f(-4) = 12$

$f(x) = |x - 3| + 1$ find $f(-3)$
$f(-3) = |-3 - 3| + 1$
$|-6| + 1$
$6 + 1$
$f(-3) = 7$

find $f(12)$
$f(12) = |12 - 3| + 1$
$|9| + 1$
$9 + 1$
$f(12) = 10$

$f(x) = -3x - 10$ find $f(-5)$
$f(-5) = -3(-5) - 10$
$15 - 10$
$f(-5) = 5$

find $f(7)$
$f(7) = -3(7) - 10$
$-21 - 10$
$f(7) = -31$

Standard H.2A.5.C3: I can solve equations in function notation

Directions: Solve each function for the requested value.

1. Let $g(x) = x^2 - 5x + 2$. Find the following:

a. $g(-1)$ **b.** $g(-2)$ **c.** $g(0)$ **d.** $g(5)$

2. Let $f(x) = 2x^2 + 2$. Find each of the following:

a. $f(-3)$ **b.** $f(6)$ **c.** $f(-1)$ **d.** $f(4)$

3. Let $g(x) = x^2 + 4x - 1$. Find the following:

a. $g(-4)$ **b.** $g(8)$ **c.** $g(-1)$ **d.** $g(1)$

4. Let $f(x) = 3x^2 - 5x$. Find each of the following:

a. $f(2)$ **b.** $f(-8)$ **c.** $f(7)$ **d.** $f(-1)$

Standard H.2A.5.C3: I can solve equations in function notation

Directions: Solve each function for the requested value.

1. Let $g(x) = x^2 - 5x + 2$. Find the following:

a. $g(-1)$

$g(-1) = (-1)^2 - 5(-1) + 2$

$1 + 5 + 2$

8

b. $g(-2)$

$g(-2) = (-2)^2 - 5(-2) + 2$

$4 + 10 + 2$

16

c. $g(0)$

$g(0) = 0^2 - 5(0) + 2$

$0 - 0 + 2$

2

d. $g(5) = 5^2 - 5(5) + 2$

$25 - 25 + 2$

2

2. Let $f(x) = 2x^2 + 2$. Find each of the following:

a. $f(-3) = 2(-3)^2 + 2$

$2(9) + 2$

$18 + 2$

20

b. $f(6) = 2(6)^2 + 2$

$2(36) + 2$

$72 + 2$

74

c. $f(-1) = 2(-1)^2 + 2$

$2(1) + 2$

4

d. $f(4) = 2(4)^2 + 2$

$2(16) + 2$

$32 + 2$

34

3. Let $g(x) = x^2 + 4x - 1$. Find the following:

a. $g(-4) = (-4)^2 + 4(-4) - 1$

$16 - 16 - 1$

-1

b. $g(8) = (8)^2 + 4(8) - 1$

$64 + 32 - 1$

95

c. $g(-1) = -1^2 + 4(-1) - 1$

$1 - 4 - 1$

-4

d. $g(1) = 1^2 + 4(1) - 1$

$1 + 4 - 1$

$5 - 1$

4

4. Let $f(x) = 3x^2 - 5x$. Find each of the following:

a. $f(2) = 3(2)^2 - 5(2)$

$3(4) - 10$

$12 - 10$

2

b. $f(-8) \ 3(-8)^2 - 5(-8)$

$3(64) + 40$

$192 + 40$

232

c. $f(7) = 3(7)^2 - 5(7)$

$3(49) - 35$

$147 - 35$

112

d. $f(-1) = 3(-1)^2 - 5(-1)$

$3(1) + 5$

$3 + 5$

8