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)

1. Given $f(x) = x^2 - 3x$

a) Find $f(-3)$

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

$f(-3) = 9 + 9$

$f(-3) = 18$

b) Find $f(5w)$

$f(5w) = (5w)^2 - 3(5w)$

$= 25w^2 - 15w$

Simplify.

$(m+6)^2$

	m	$+6$
m	m^2	$6m$
$+6$	$6m$	36

$m^2 + 12m + 36$

Simplify.

$(m-8)^2$

	m	-8
m	m^2	$-8m$
-8	$-8m$	64

$M^2 - 16m + 64$

Simplify. $(3b - 2)^2 = (3b-2)(3b-2)$

	$3b$	-2
$3b$	$9b^2$	$-6b$
-2	$-6b$	$+4$

$9b^2 - 12b + 4$

Simplify.

$(10q + 11)^2 = 100q^2 + 220q + 121$

In general: $(a + b)^2 = a^2 + 2ab + b^2$

Square the first term in the ()

Multiply the two terms in the () then double it.

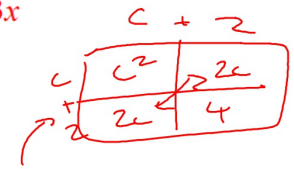
Square the last term in the ()

$(5k^2 - 12g)^2 = (5k^2)^2 + 2(5k^2)(-12g) + (-12g)^2$

$= 25k^4 - 120k^2g + 144g^2$

1. Given $f(x) = x^2 - 3x$

c) Find $f(c + 2)$



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

$f(c+2) = c^2 + 4c + 4 - 3c - 6$

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

Given f(x) = 3x + 1

1. Find f(-2)

$f(x) = -6 + 1 \quad f(-2) = -5$

2. Find x when f(x)=34

$3x + 1 = 34$

$-1 \quad -1$

$3x = 33$

$\frac{3x}{3} = \frac{33}{3}$

$x = 11$

Hwk #9 Sec 2-1

Due tomorrow

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Problems 12, 13, 17, 18, 37-39, 46, 50, 51