

Warm-up

x	f(x)
1	5
2	11
3	19
4	29
8	89

$$f(4) = (4)^2 + 3(4) + 1$$

$$f(4) = 16 + 12 + 1$$

$$f(4) = 29$$

$$f(8) = (8)^2 + 3(8) + 1$$

$$f(8) = 64 + 24 + 1$$

$$f(8) = 89$$

x	K(x)
-2	-5
-1	1
0	3
1	1
2	-5
3	-15

$$K(x) = -2x^2 + 3$$
$$K(-2) = -2(-2)^2 + 3$$

$$K(-2) = -2(4) + 3$$

$$K(-2) = -8 + 3$$

$$K(-2) = -5$$

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$$K(0) = -2(0)^2 + 3$$

$$K(0) = -2(0) + 3$$

$$K(0) = 3$$

white board work

①

$$f(2) = 3(2) - 4$$

$$f(2) = 2$$

x	f(x)
1	-1
2	2
4	8
0	-4
6	14

$$f(x) = 8$$

$$f(x) = 3x - 4$$

\* Find the missing values in the table.

$$f(1) = 3(1) - 4$$

$$= 3 - 4$$

$$f(1) = -1$$

$$8 = 3x - 4$$

$$\begin{array}{r} +4 \\ \hline 12 = 3x \end{array}$$

$$\frac{12}{3} = \frac{3x}{3}$$

$$x = 4$$

②

x	g(x)
1	-1
10	98
3	7
8	62
5	23

$$3^2 = 9$$

$$\sqrt{9} = 3$$

$$g(x) = 62 = x^2 - 2$$

$$\begin{array}{r} +2 \quad +2 \\ \hline \sqrt{64} = \sqrt{x^2} \\ x = 8 \end{array}$$

$$g(x) = x^2 - 2$$

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

$$g(1) = -1$$

$$g(x) = 98 = \boxed{x^2} - 2$$

$$\begin{array}{r} +2 \quad +2 \\ \hline \sqrt{100} = \sqrt{x^2} \end{array}$$

$$10 = x$$

①

$y = x^2 + 3x + 1$

Input	Output
$x$	$f(x)$
1	5
2	11
3	19
4	29
8	89

$$\underline{f(x)} = x^2 + 3x + 1$$

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

$$f(1) = 1 + 3 + 1$$

$$f(1) = 5$$

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

$$f(2) = 4 + 6 + 1$$

$$f(2) = 11$$

$$3(0) + 4 = 4$$

x	g(x)
1	7
0	4
3	13
* 6	22
5	19

$$g(x) = 3x + 4$$

$$g(1) = 3(1) + 4$$

$$g(1) = 7$$

$$g(x) = 4$$

$$3x + 4 = 4$$

$$x = 0 \quad \frac{3x}{3} = \frac{0}{3}$$

$$\begin{array}{r} 3x + 4 = 4 \\ -4 \quad -4 \\ \hline 3x = 0 \end{array}$$

\* Fractions  $\rightarrow$  Decimals

Ex.  $\frac{3}{4} = .75$

$\frac{1}{2} \rightarrow$  decimal  $\rightarrow .5$

\* Type fraction in the calculator as the numerator divided by the denominator

## Decimals → Percentages

- \* Once you have your fraction to a decimal, you multiply your decimal by 100 \$ that is the Percent
- \* move your decimal point to the right twice

$$\cdot 45 \times 100 = 45\%$$

$$\cdot 90 \times 100 = 90\%$$

## Percentage → decimal

- \* Given a percentage, Divide the % by 100, and you will have it in decimal form.



①

x	f(x)
1	5
2	11
3	19
4	29
8	89

$$f(1) = (1)^2 + 3(1) + 1$$
$$f(1) = 5$$

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

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

$$f(2) = 4 + 6 + 1$$

$$f(2) = 11$$

$$x=0$$

$$K(0) = -2(0)^2 + 3$$

$$K(0) = -2(0) + 3$$

$$K(0) = 0 + 3$$

$$K(0) = 3$$

①

x	f(x)
-1	3
0	0
1	3
2	12
3	27
4	48

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

$$f(1) = 3$$

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

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

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

$$f(-1) = 3$$

$$f(0) = 3(0)^2$$

$$f(0) = 0$$

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

$$f(2) = 3 \cdot 4 = 12$$

x	g(x)
1	5
7	23
3	11
	26
5	17

$$g(x) = 3x + 2$$

$$g(1) = 3(1) + 2$$

$$g(3) = 3(3) + 2$$

$$g(3) = 9 + 2 = 11$$

$$g(5) = 3(5) + 2$$

$$g(x) = 23 = 3x + 2$$

$$x = 7 \quad \frac{21}{3} = \frac{3x}{3}$$

$$26 = 3x + 2$$

$$\frac{24}{3} = \frac{3x}{3}$$

$$x = 8$$