NAME: Key

Function Notation DATE: _____

1. Evaluate the following expressions given the functions below:

$g(x) = -3x + 1$ $f(x) = x^2 + 7$ $h(x) = \frac{12}{x}$ $j(x) = 2x + 9$

a. $g(10) =$ -29 b. $f(3) =$ 16 c. $h(-2) = \frac{12}{-2} = -6$

d. $j(7) =$ 23 e. $h(a) = \frac{12}{a}$ f. $g(b+c)$ $-3(b+c)+1$ $-3b-3c+1$

h. Find x if $g(x) = 16$ i. Find x if $h(x) = -2$ j. Find x if $f(x) = 23$

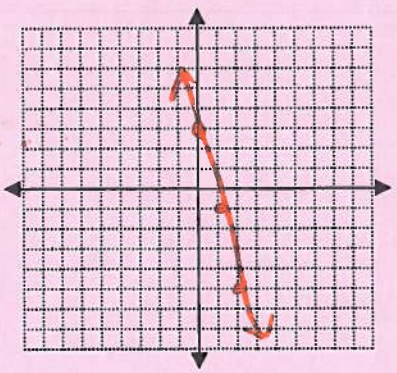
$-3x+1 = 16$ $\frac{12}{x} = -2$ $x^2+7 = 23$

$x = -5$ $x = -6$ $x = 4$

2. Given $f(x) = 3 - 4x$. Fill in the table and then sketch a graph.

x	$f(x)$
-6	27
-3	15
0	3
1	-1
2	-5

$3-4x = -5$
$-3 \quad -3$
$-4x = -8$
$\div -4 \quad \div -4$



3. What is the difference between $f(3) - g(3)$ and $(f - g)(3)$

Nothing → they end up ~~the~~ same being the

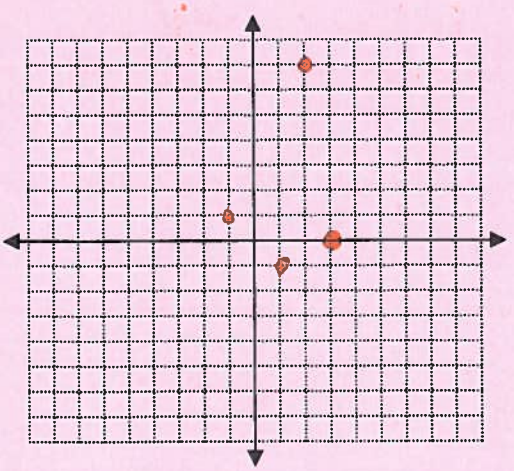
4. Translate the following statements into coordinate points, then plot them!

a. $f(-1) = 1$ (-1, 1)

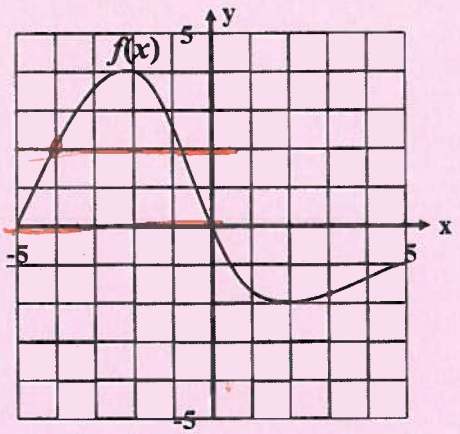
b. $f(2) = 7$ (2, 7)

c. $f(1) = -1$ (1, -1)

d. $f(3) = 0$ (3, 0)



5. Given this graph of the function f(x):



Find:

a. $f(-4) =$ 2 **b.** $f(0) =$ 0 **c.** $f(3) =$ ≈ -1.75 **d.** $f(-5) =$ 0

e. x when $f(x) = 2$

X = -4 ; X = -0.75

f. x when $f(x) = 0$

X = 0, -5

APPLICATION

6. Swine flu is attacking Grand Rapids. The function below determines how many people have swine flu where t = time in days and S = the number of people in thousands.

$$S(t) = 9t - 4$$

a. Find $S(4)$.

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b. What does $S(4)$ mean?

After 4 days, 32,000 are affected by the swine flu.

c. Find t when $S(t) = 23$.

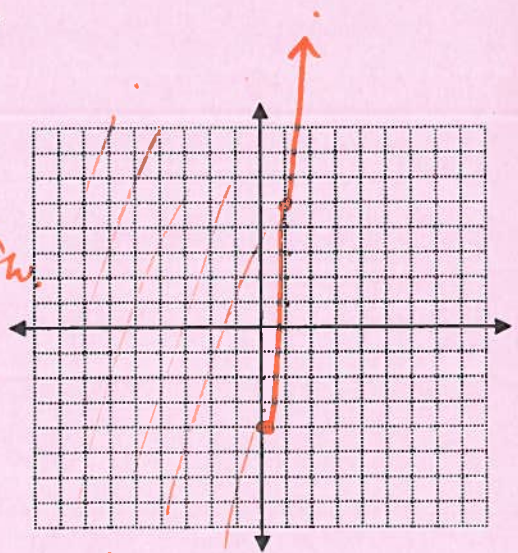
$9t - 4 = 23$ $t = 3$

$9t = 27$.

d. What does $S(t) = 23$ mean?

After 't' days, 23,000 people were affected by swine flu.

e. Graph the function.



x	y
0	-4
1	5
2	14
3	23