Algebra 3-4 Name: _____ Per:____
Function Notation

1. Explain the difference between $f(2)$ and $f(x) = 2$.

2. Let $f(x) = 4 - 2x$

a) Evaluate $f(-6)$ b) Evaluate $f(3a)$ c) Evaluate $f(t+2)$ d) Solve $f(x) = 5$

3. Let $g(x) = x^2 - 7$

a) Evaluate $g(-3)$
b) Solve $g(x) = -6$

4. Let $h(x) = (x-2)(x+7)$

a) Evaluate $h(2)$
b) Evaluate $h(a)$

5. Let $f(x) = \frac{8}{x+2}$

a) Evaluate $f(14)$ c) Solve $f(x) = 1$
b) Evaluate $f(t)$

6. Use the graph of $f(x)$ below to answer the following questions.

a) Evaluate $f(3)$

b) Evaluate $f(-1)$

c) Solve $f(x) = 0$

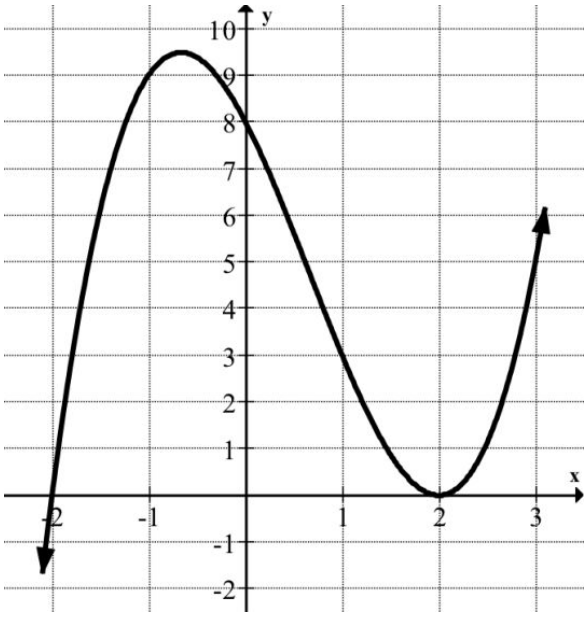
d) Solve $f(x) = -1$

e) Identify the domain of this function.

f) On what interval is the function decreasing?

g) On what interval is the function increasing?

h) Does the function have an absolute maximum?



8. Sketch the graph of a function whose domain is $(-\infty, \infty)$ and whose range is $(-\infty, \infty)$.

9. Sketch the graph of a function whose domain is $(-\infty, \infty)$ and whose range is $(-\infty, 0]$.

10. Sketch the graph of a function whose domain and range are both $[0, \infty)$.

11. Use the table of values to answer the questions below.

x	-7	-2	0	1	3	4	6
f(x)	6	3	0	-2	1	0	0

a. Evaluate $f(3)$

b. Evaluate $f(6)$

c. Solve $f(x) = 6$

d. Solve $f(x) = 0$

CHALLENGE!

12. Let $h(x) = x^2 + 5x - 14$. Solve $h(x) = 10$