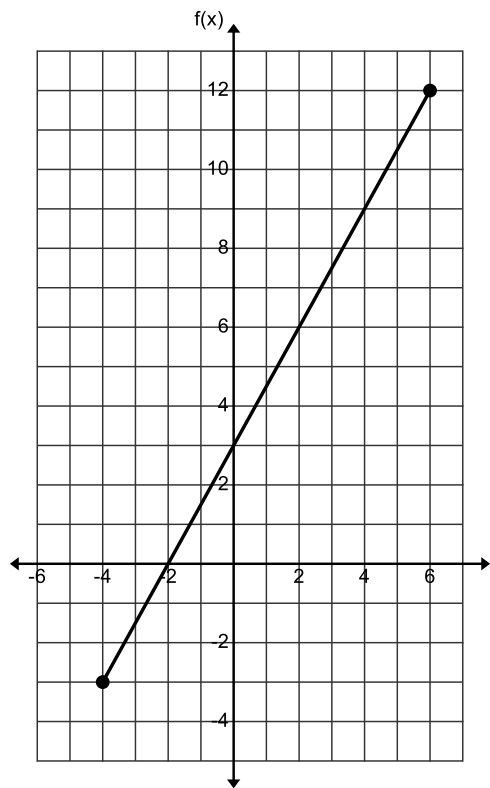


Unit 5 Day 7 - Use Function Notation Classwork

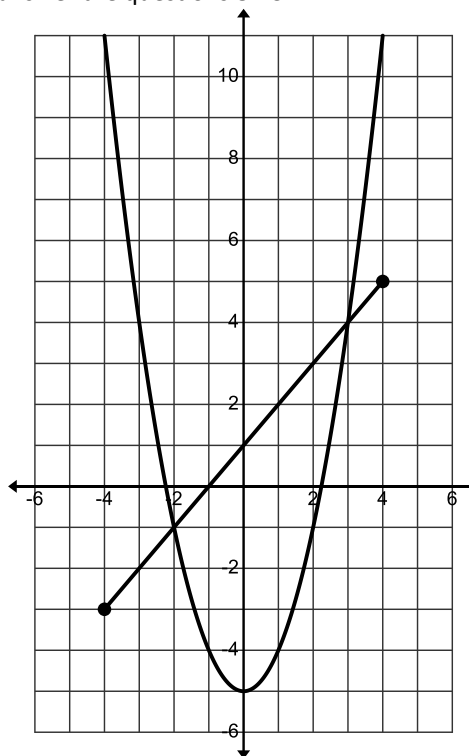
Use the graph of $f(x)$ to answer the following questions. Unless otherwise specified, restrict the domain of the functions to what you see in the graph below. Approximations are appropriate answers.

1. What is $f(2)$?
2. For what values, if any, does $f(x) = 3$?
3. What is the x -intercept?
4. What is the domain of $f(x)$?
5. On what intervals is $f(x)$ increasing?
6. On what intervals is $f(x)$ decreasing?
7. When is $f(x) > 3$?



Consider the linear graph of $f(t)$ and the nonlinear graph of $g(t)$ to answer the questions 8-13. Approximations are appropriate answers.

8. Where is $f(t) = g(t)$?
9. When is $f(t) > g(t)$?
10. What is $f(0) + g(0)$?
11. What is $f(-1) + g(-1)$?
12. Which is greater: $f(0)$ or $g(-3)$?
13. Graph: $f(t) + g(t)$ from $-1 \leq x \leq 3$



The following table of values represents two continuous functions, $f(x)$ and $g(x)$. Use the table to answer the following questions.

x	$f(x)$	$g(x)$
-5	42	-13
-4	30	-9
-3	20	-5
-2	12	-1
-1	6	3
0	2	7
1	0	11
2	0	15
3	2	19
4	6	23
5	12	27
6	20	31

14. What is $f(0)$? 15. What is $g(-3)$?
16. For what value(s) is $f(x) = 0$?
17. For what values is $f(x)$ increasing?
18. On what interval is $g(x) > f(x)$?
19. Which function is changing faster in the interval $-5 \leq x \leq 0$? Why?

Use the following relationships to answer the questions below.

$h(x) = 2^x$ $f(x) = 3x - 2$ $g(x) = 5$ $x = 4$ $y = 5x + 1$

20. Which of the above relations are functions? Explain.
21. Find $f(2)$, *Find $g(2)$,* *Find $h(2)$.*
22. Write the expression for $g(x) + h(x)$.
23. When is $g(x) < f(x)$?
24. When is $f(x)$ increasing?
25. Which of the above functions has the fastest growth rate? Explain.