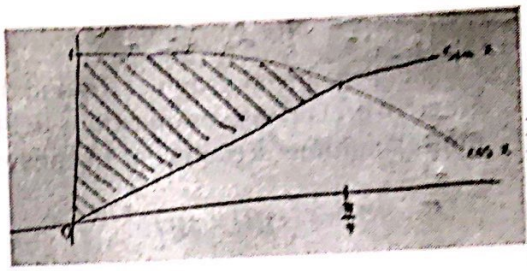
3.6 Interpreting Functions

A Practice Understanding Task

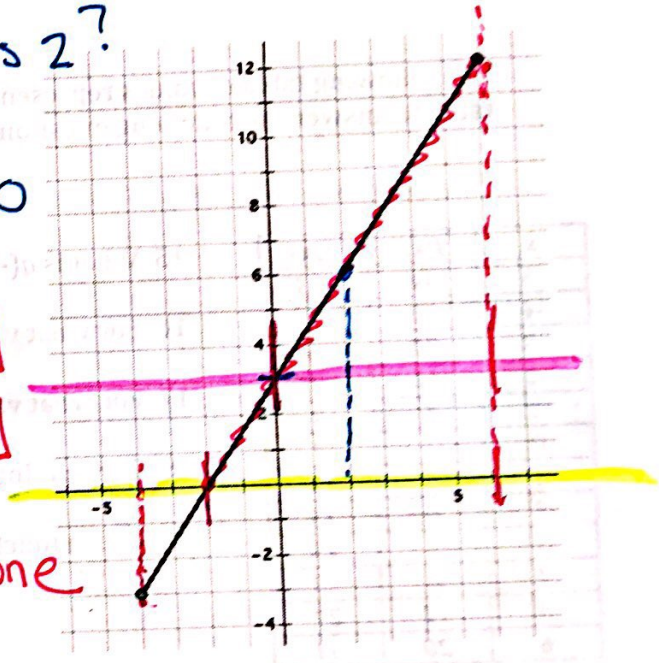


Given the graph of $f(x)$, answer the following questions. Unless otherwise specified, restrict the domain of the function to what you see in the graph below. Approximations are appropriate answers.

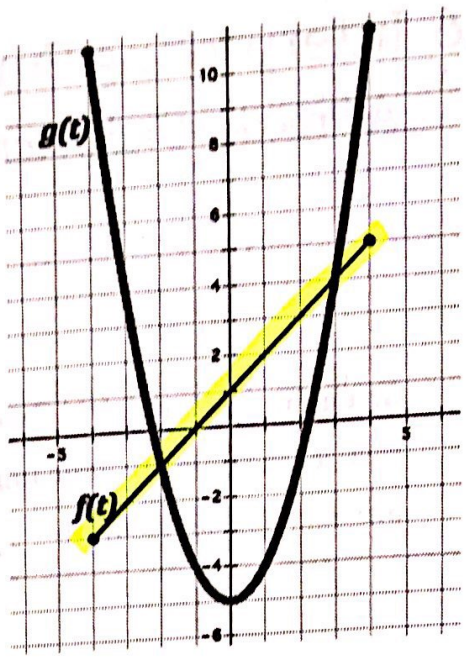
what is x when y is 3

What is y when x is 2?

1. What is $f(2)$? 6
2. For what values, if any, does $f(x) = 3$? $y = 3$ $x = 0$
3. What is the x-intercept? $(-2, 0)$
4. What is the domain of $f(x)$? $[-4, 6]$
5. On what intervals is $f(x) > 0$? $y > 0$ $(-2, 6]$
6. On what intervals is $f(x)$ increasing? $(-4, 6)$
7. On what intervals is $f(x)$ decreasing? none
8. For what values, if any, is $f(x) \geq 3$? $y \geq 3$ $(0, 6)$



Consider the linear graph of $f(t)$ and the nonlinear graph of $g(t)$ to answer questions 9-14. Approximations are appropriate answers.



9. Where is $f(t) = g(t)$? (-2,-1) (3,4)

10. Where is $f(t) > g(t)$? (-2, 3)

11. What is $f(0) + g(0)$? -4
1 + -5

12. What is $f(-1) + g(-1)$? -4
0 + -4

13. Which is greater: $f(0)$ or $g(-3)$? $f(0) > g(-3)$
1 3

14. Graph: $f(t) + g(t)$ from [-1, 3]
omit

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	44	-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

15. What is $g(-3)$? -5

16. For what value(s) is $f(x) = 0$? x=1 x=2

17. For what values does $f(x)$ seem to be increasing? (2,6)

18. On what interval is $g(x) > f(x)$ (0,6)

19. Which function is changing faster in the interval [-5, -1]? Why?
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