

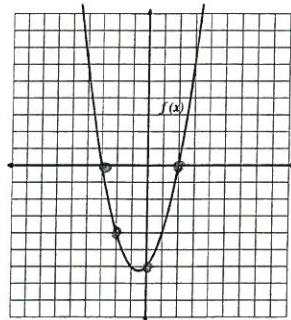
Use the graph to find the indicated function value.

1a. $f(-3) = 0$

b. $f(-2) = -4$

c. $f(0) = -6$

d. $f(2) = 0$

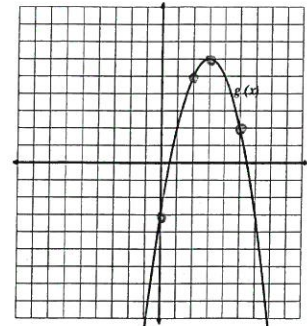


2a. $g(0) = -3$

b. $g(2) = 5$

c. $g(3) = 6$

d. $g(5) = 2$

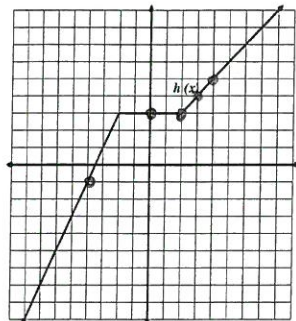


3a. $h(-4) = -1$

b. $h(0) = 3$

c. $h(2) = 3$

d. $h(4) = 5$

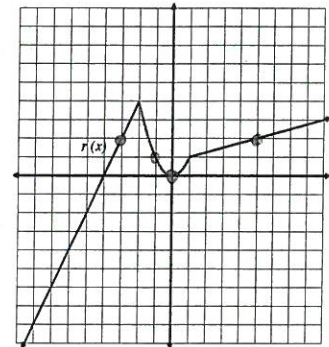


4a. $r(-3) = 2$

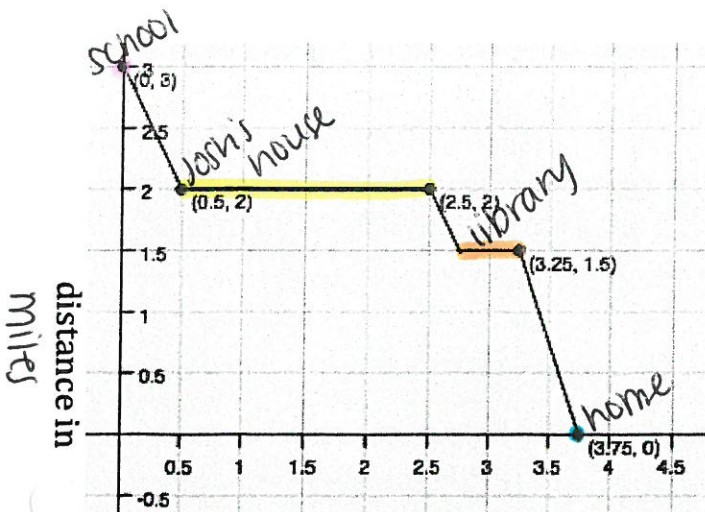
b. $r(-1) = 1$

c. $r(0) = 0$

d. $r(5) = 2$



5. London lives 3 miles away from his school. School ended at 3 pm and London began his walk home with his friend Josh who lives 1 mile away from the school, in the direction of London's house. London stayed at Josh's house for a while and then started home. On the way, he stopped at the library. Then, he hurried home. The graph at the right is a piecewise-defined function that shows London's distance from home during the time it took him to arrive home.



a. How much time did it take London to get home? 3.75 hours

b. How long did ~~London~~ ^{London} stay at Josh's house? 2 hours

c. How far is the library from Josh's house? 0.5 miles

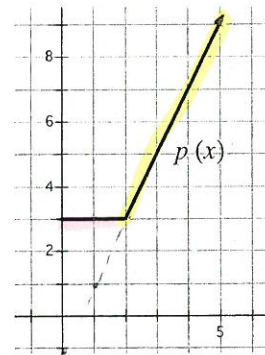
d. Where was London 3 hours after school ended? library

e. $f(3) = 1.5$ miles from home

f. When was London walking fastest? between library + home
How fast was he walking? between 0:15pm and 10:45am
1.5 miles / 1/2 hour = 3 miles/hour

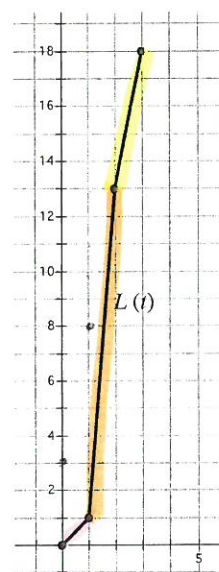
6. A parking garage charges \$3 for the first two hours that a car is parked in the garage. After that, the hourly fee is \$2 per hour. Write a piecewise function $p(x)$ for the cost of parking a car in the garage for x hours. The graph of $p(x)$ is shown.

$$p(x) = \begin{cases} 0x + 3, & 0 \leq x \leq 2 \\ 2x - 1, & 2 < x \end{cases}$$



7. Lexie completed an 18-mile triathlon. She swam 1 mile in 1 hour, bicycled 12 miles in 1 hour, and then ran 5 miles in 1 hour. The graph of Lexie's distance versus time is shown. Write a piecewise function $L(t)$ for the distance.

$$L(t) = \begin{cases} 1x + 0, & 0 \leq x \leq 1 \\ 13x - 11, & 1 < x \leq 2 \\ 5x + 3, & 2 \leq x \leq 3 \end{cases}$$



Write the equation of the line (in point-slope form) that contains the given slope and point.

8. $p: (1, 2); m = 3$

9. $p: (1, -2); m = -1$

10. $p: (5, -1); m = 2$

$$y = 3(x - 1) + 2$$

$$y = -1(x - 1) - 2$$

$$y = 2(x - 5) - 1$$

Write the equation of the line (in point-slope form) that contains the given points.

11. $K(0, 0); L(-4, 5)$

$$m = \frac{5 - 0}{-4 - 0} = \left(-\frac{5}{4}\right)$$

$$y = -\frac{5}{4}(x - 0) + 0$$

Solve:

$$y = -\frac{5}{4}(x + 4) + 5$$

12. $X(-1, 7); Y(3, -1)$

$$m = \frac{-1 - 7}{3 - (-1)} = \frac{-8}{4} = (-2)$$

$$y = -2(x + 1) + 7$$

$$y = -2(x - 3) - 1$$

13. $T(-1, -9); V(5, 18)$

$$m = \frac{18 - (-9)}{5 - (-1)} = \frac{27}{6} = \left(\frac{9}{2}\right)$$

$$y = \frac{9}{2}(x + 1) - 9$$

$$y = \frac{9}{2}(x - 5) + 18$$

14. $|x| = 7$

$$x = 7$$

$$x = -7$$

15. $|x + 4| = 11$

$$x + 4 = 11$$

$$-4 \quad -4$$

$$x = 7$$

$$x + 4 = -11$$

$$-4 \quad -4$$

$$x = -15$$

16. $|x - 6| = 3$

$$x - 6 = 3$$

$$+6 \quad +6$$

$$x = 9$$

$$x - 6 = -3$$

$$+6 \quad +6$$

$$x = 3$$