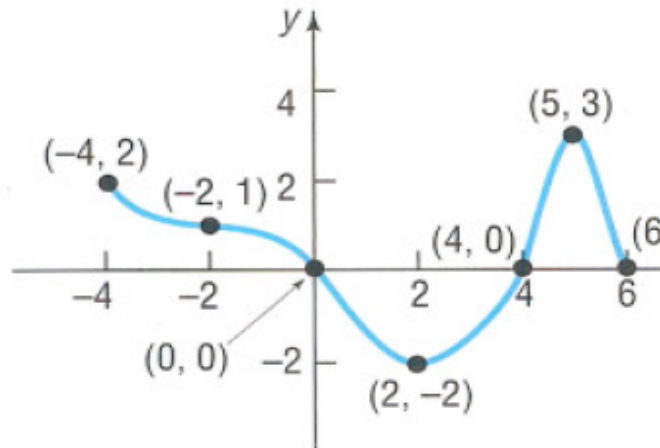


F. Further Examples:

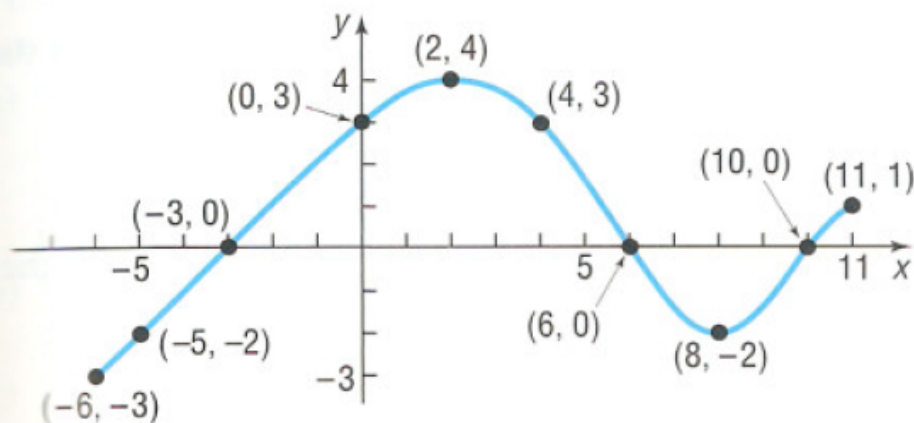
10. Use the given graph of the function f to answer the following questions.



- Find $f(0)$ and $f(6)$.
- Find $f(2)$ and $f(-2)$.
- Is $f(3)$ positive or negative?
- Is $f(-1)$ positive or negative?
- For what values of x is $f(x) = 0$?
- For what values of x is $f(x) < 0$?
- What is the domain of f ?
- What is the range of f ?
- What are the x -intercepts?
- What is the y -intercept?
- How often does the line $y = -1$ intersect the graph?
- How often does the line $x = 1$ intersect the graph?
- For what value of x does $f(x) = 3$?
- For what value of x does $f(x) = -2$?

G. Further Examples

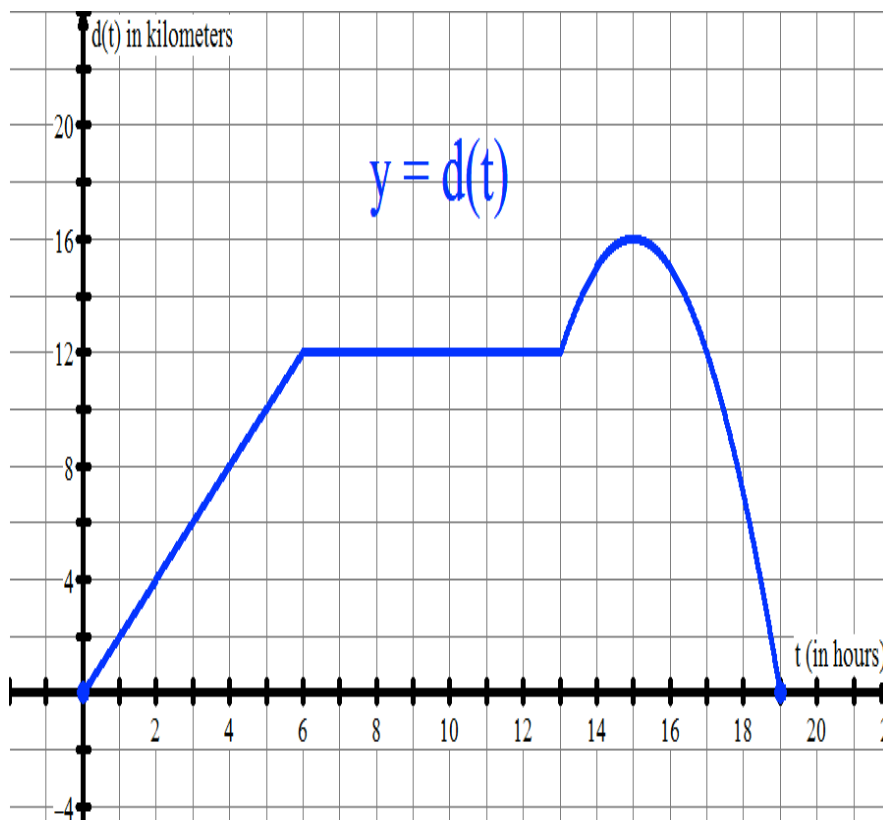
Use the given graph of the function f to answer parts (a)–(n).



- Find $f(0)$ and $f(-6)$.
- Find $f(6)$ and $f(11)$.
- Is $f(3)$ positive or negative?
- Is $f(-4)$ positive or negative?
- For what values of x is $f(x) = 0$?
- For what values of x is $f(x) > 0$?
- What is the domain of f ?
- What is the range of f ?
- What are the x -intercepts?
- What is the y -intercept?
- How often does the line $y = \frac{1}{2}$ intersect the graph?
- How often does the line $x = 5$ intersect the graph?
- For what values of x does $f(x) = 3$?
- For what values of x does $f(x) = -2$?

H. Application of Functions

Mr. S. went on a two day hiking and camping adventure with his son Andrew. Here is a function $y = d(t)$ which represents a Distance-Time graph for Mr. S's and Andrew's hike. The x axis (the independent variable) is time in hours since we left our campsite and the y-axis represents the distance from our campsite.



- d. Evaluate $d(0)$ and interpret what this point represents.
- e. Evaluate $d(5)$ and interpret what this point represents.
- f. Evaluate $d(15)$ and interpret what this point represents.
- g. For what values of t does $d(t) = 8$? Interpret your answer in the context of the problem.
- h. For what values of t does $d(t) = 12$? Interpret your answer in the context of the problem.
- i. For what values of t does $d(t) = 0$? Interpret your answer in the context of the problem.

- j. For what values of t does $d(t) \geq 10$? Interpret your answer in the context of the problem.
- k. For what values of t does $d(t) \leq 2$? Interpret your answer in the context of the problem.
- l. What is the domain of the function $y = d(t)$? Interpret your answer in the context of the problem.
- m. What is the range of the function $y = d(t)$? Interpret your answer in the context of the problem.
- n. What is the slope of the function on the interval $0 < t < 6$? Interpret your answer in the context of the problem.
- o. What is the slope of the function on the interval $6 < t < 13$? Interpret your answer in the context of the problem.
- p. What is our average speed in the first 12 hours of our hike?
- q. What is our average speed in the final 6 hours of our hike?
- r. How far did we hike?
- s. Write an equation that represents the first 13 hours of our hike .
- t. Write an equation that represents the complete hiking trip.