

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Find the function value.

1) Let $f(x) = x^2 - 4x - 5$. Find $f(1)$.

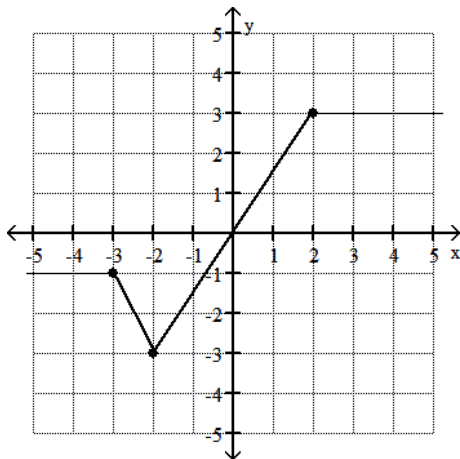
2) Let $f(x) = \frac{x}{3-x}$. Find $f\left(-\frac{4}{5}\right)$.

3) Let $f(x) = 7x^2 - 7x + 7$. Find $f(-x)$.

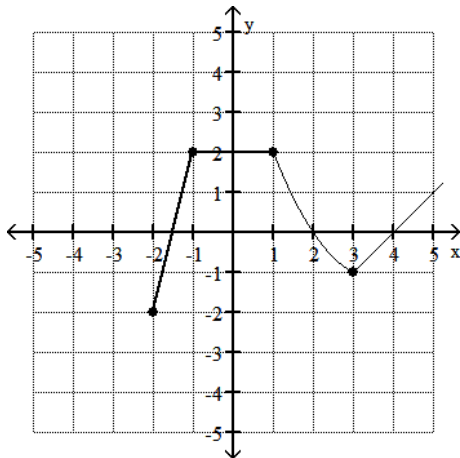
4) Let $g(x) = 4x^3$. Find $g(5+h)$.

Use the graph of the function to find the following: a. the domain and range of the function; b. the intercepts, if any; c. the intervals on which the function is increasing, decreasing, or is constant; d. whether the function is even, odd, or neither.

5)



6)



Find the domain of the function.

7) $f(x) = \frac{x}{x-3}$

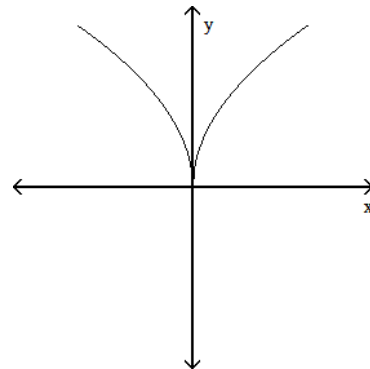
8) $f(x) = \frac{1}{x^2 + 6x - 7}$

9) $f(x) = \sqrt{10-x}$

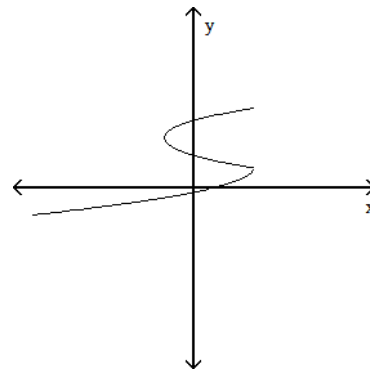
10) $f(x) = \frac{(x+1)(x-1)}{x^2-1}$

Use the vertical-line test to determine whether the graph represents a function.

11)



12)



Compute $\frac{f(x+h) - f(x)}{h}$ ($h \neq 0$) for the given function.

13) $f(x) = 2x - 5$

14) $f(x) = \frac{1}{7x}$

Solve the problem.

- 15) If an object is dropped off of a tower, the velocity, V , of the object after t seconds can be obtained by multiplying t by 32 and adding 10 to the result. Express V as a linear function of t .
- 16) If an object is dropped from a tower, then the velocity, V (in feet per second), of the object after t seconds can be obtained by multiplying t by 32 and adding 10 to the result. Find V as a linear function of t , and use this function to evaluate $V(7.2)$, the velocity of the object at time $t = 7.2$ seconds.