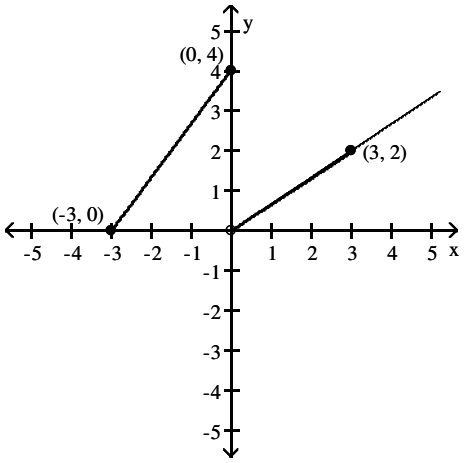
Solve the equation.

1) $(-8p + 3)^2 = -10(-8p + 3) - 21$

The graph of a piecewise–defined function is given. Write a definition for the function.

2)



Find the requested value.

3) $f(x) = 9x - 8$, $g(x) = 3x - 7$
Find $f - g$.

Solve for the indicated variable.

4) $A = 3\pi a^2$ for a

Solve the problem.

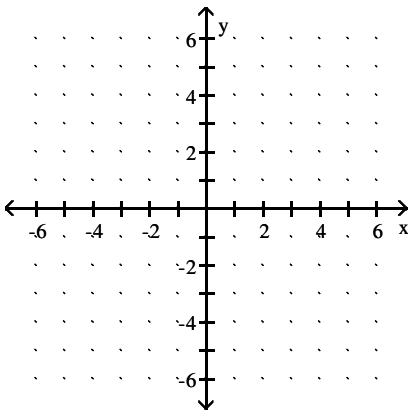
5) A farmer has 1400 yards of fencing to enclose a rectangular garden. Express the area A of the rectangle as a function of the width x of the rectangle. What is the domain of A?

Find the requested value.

6) $f(x) = x - 6$, $g(x) = x + 3$
Find $(f + g)(3)$.

Graph the function. Identify the transformations the library graph underwent. (Left or right, up or down, compression or stretching?)

7) $f(x) = 4(x - 4)^3 + 3$



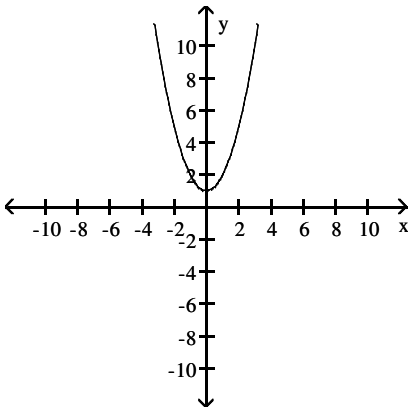
Find the requested function value.

8)

$$\text{If } f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ 2 & \text{if } x = 0 \\ 2x + 1 & \text{if } x > 0 \end{cases} \quad \text{find } f(6)$$

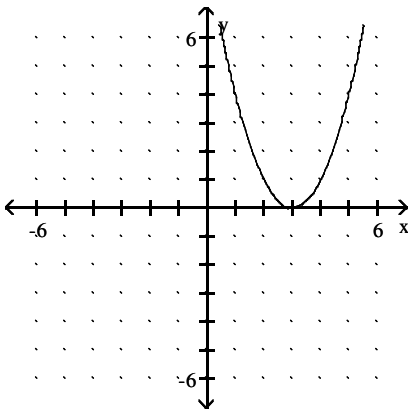
The graph of a function is given. Decide whether it is even, odd, or neither.

9)



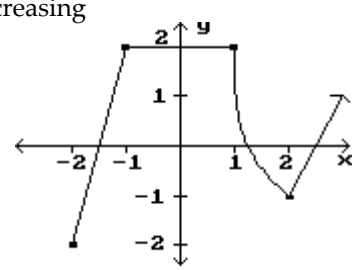
Give the domain and range of the function. Assume the ends of the function continue on.

10)



Identify the intervals where the function is changing as requested.

11) Increasing



Give the domain and range of the equation and indicate whether or not it is a function.

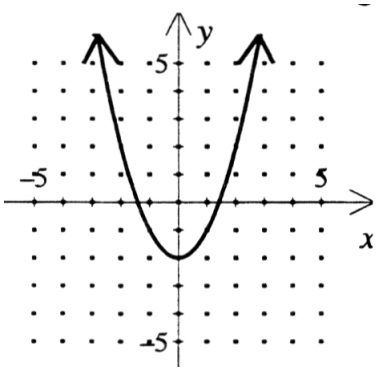
12) $x = y^2 + 9$

Evaluate the function.

13) Find f(–6) when $f(x) = -5x + 3$.

14) Find f(k – 1) when $f(x) = 4x^2 - 4x - 6$.

15) Find the domain and range for the function graphed below.



A) D = $\{x \mid x > -2\}$
R = $\{y \mid y > -2\}$
B) D = $\{x \mid x \le -2\}$
R = $\{y \mid y$ is a real number$\}$
C) D = $\{x \mid x$ is a real number$\}$
R = $\{y \mid y$ is a real number$\}$
D) D = $\{x \mid x$ is a real number$\}$
R = $\{y \mid y \ge -2\}$

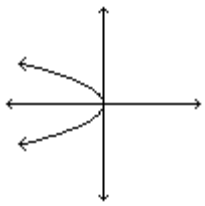
Give the domain of the function.

16) $f(x) = \dfrac{\sqrt{x+4}}{(x+8)(x+8)}$

17) $f(x) = \sqrt{4 - x}$

Determine whether or not the graph represents a function.

18)



Decide whether the relation defines a function.

19) {(2, 6), (2, –8), (4, –6), (8, –9), (10, 3)}

20) Find the intercepts of the graph of $y = (x - 2)^2 - 1$.

21) If a graph is symmetric with respect to the y–axis and it contains the point (5, –6), which of the following points is also on the graph?

A) (–6, 5) B) (–5, 6)
C) (–5, –6) D) (5, –6)

1) $\{1\frac{1}{4}, \frac{3}{4}\}$

2) $f(x) = \frac{4}{3}x + 4$ if $-3 \le x \le 0$

$f(x) = \frac{2}{3}x$ if $x > 0$

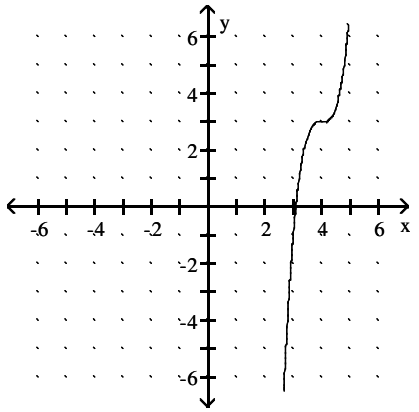
3) $6x - 1$

4) $a = \frac{\pm\sqrt{3\pi A}}{3\pi}$

5) $A(x) = -x^2 + 700x$, $0 < x < 700$

6) 3

7)



8) 13

9) Even

10) Domain $(-\infty, \infty)$; Range $[0, \infty)$

11) $(2, \infty)$ and $(-2, -1)$

12) D = $[9, \infty)$, R = $(-\infty, \infty)$, no

13) 33

14) $4k^2 - 12k + 2$

15) D

16) $x \ge -4$, $x \ne -8$, $x \ne -8$

17) $x \le 4$

18) Not a function

19) Not a function

20) y–intercept 3; x–intercept 3, 1

21) C