

Find the distance $d(P_1, P_2)$ between the points P_1 and P_2 .

- 1) $P_1 = (5, -6)$; $P_2 = (7, -2)$
 A) 2
 B) 12
 C) $2\sqrt{5}$
 D) $12\sqrt{3}$

Identify whether the triangle formed by the three vertices given is isosceles, right, neither of these, or both.

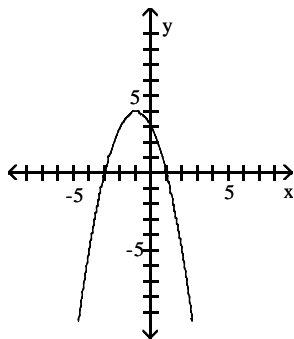
- 2) $(7, 10)$, $(9, 14)$, $(11, 13)$
 A) right
 B) isosceles
 C) both
 D) neither

Find the midpoint of the line segment joining the points P_1 and P_2 .

- 3) $P_1 = (1, 9)$; $P_2 = (2, 2)$
 A) $(3, 11)$
 B) $(\frac{11}{2}, \frac{3}{2})$
 C) $(\frac{3}{2}, \frac{11}{2})$
 D) $(-1, 7)$

List the intercepts of the graph.

4)

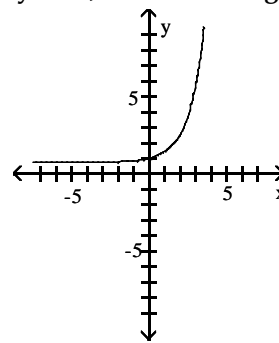


- A) $(0, -3)$, $(3, 0)$, $(0, 1)$
 B) $(0, -3)$, $(0, 3)$, $(1, 0)$
 C) $(-3, 0)$, $(0, 3)$, $(1, 0)$
 D) $(-3, 0)$, $(0, 3)$, $(0, 1)$

List the intercepts for the graph of the equation.

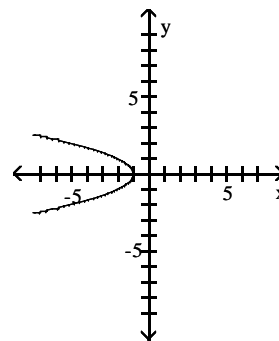
- 5) $x^2 + y - 49 = 0$
 A) $(-7, 0)$, $(0, -49)$, $(7, 0)$
 B) $(-7, 0)$, $(0, 49)$, $(7, 0)$
 C) $(7, 0)$, $(0, 49)$, $(0, -49)$
 D) $(0, -7)$, $(49, 0)$, $(0, 7)$

Determine whether the graph is symmetric with respect to the x-axis, the y-axis, and/or the origin.



6)

- A) y-axis
 B) origin
 C) x-axis
 D) x-axis, y-axis, origin
 E) none



7)

- A) x-axis
 B) origin
 C) y-axis
 D) x-axis, y-axis, origin
 E) none

Determine whether the graph of the equation is symmetric with respect to the x-axis, the y-axis, and/or

8) $y^2 - x - 49 = 0$

- A) y-axis
 B) origin
 C) x-axis
 D) x-axis, y-axis, origin
 E) none

9) $y = \frac{9x}{x^2 + 81}$

- A) y-axis
- B) origin
- C) x-axis
- D) x-axis, y-axis, origin
- E) none

Solve the problem.

10) 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) (-5, 6)
- B) (-6, 5)
- C) (-5, -6)
- D) (5, -6)

Write the standard form of the equation of the circle with radius r and center (h, k).

11) $r = 5$; $(h, k) = (-2, -6)$

- A) $(x + 2)^2 + (y + 6)^2 = 25$
- B) $(x - 2)^2 + (y - 6)^2 = 5$
- C) $(x + 2)^2 + (y + 6)^2 = 5$
- D) $(x - 2)^2 + (y - 6)^2 = 25$

Solve the problem.

12) Find the equation of a circle in standard form where C(6, -2) and D(-4, 4) are endpoints of a diameter.

- A) $(x + 1)^2 + (y + 1)^2 = 34$
- B) $(x - 1)^2 + (y - 1)^2 = 136$
- C) $(x - 1)^2 + (y - 1)^2 = 34$
- D) $(x + 1)^2 + (y + 1)^2 = 136$

Find the slope of the line containing the two points.

13) (-8, 8); (1, 8)

- A) 9
- B) 0
- C) $-\frac{1}{9}$
- D) undefined

Find the slope of the line through the points and interpret the slope.

14) (1, -3); (7, 8)

- A) $\frac{6}{11}$; for every 11-unit increase in x, y will increase by 6 units
- B) $-\frac{11}{6}$; for every 6-unit increase in x, y will decrease by 11 units
- C) $-\frac{6}{11}$; for every 11-unit increase in x, y will decrease by 6 units
- D) $\frac{11}{6}$; for every 6-unit increase in x, y will increase by 11 units

Solve the problem.

15) Find an equation of the line with slope undefined and containing the point (1, 7).

- A) $x = 7$
- B) $y = 7$
- C) $x = 1$
- D) $y = 1$

Find the slope-intercept form of the equation of the line with the given properties.

16) slope = 0; containing the point (-6, 8)

- A) $y = 8$
- B) $x = 8$
- C) $y = -6$
- D) $x = -6$

Solve the problem.

17) Find the general form of the equation of the line containing the points (8, -3) and (-4, 2).

- A) $5x + 12y = 4$
- B) $-11x + 6y = 32$
- C) $11x - 6y = 32$
- D) $-5x + 12y = 4$

Find the slope-intercept form of the equation of the line with the given properties.

18) slope = 4; containing the point (-3, -8)

- A) $y = -4x + 4$
- B) $y = -4x - 4$
- C) $y = 4x + 4$
- D) $y = 4x - 4$

19) x-intercept = 5; y-intercept = 3

- A) $y = -\frac{3}{5}x + 5$
- B) $y = -\frac{3}{5}x + 3$
- C) $y = -\frac{5}{3}x + 5$
- D) $y = \frac{3}{5}x + 3$

Find an equation for the line with the given properties.

20) Parallel to the line $3x + 4y = 21$; containing the point $(3, 2)$

- A) $3x + 4y = 21$ B) $3x + 4y = 17$
 C) $4x + 3y = 2$ D) $3x - 4y = 17$

21) Perpendicular to the line $-7x - 3y = -11$; containing the point $(2, 1)$

- A) $3x - 7y = -1$ B) $-7x + 3 = -7$
 C) $2x + 3y = -11$ D) $3x + 7y = -1$

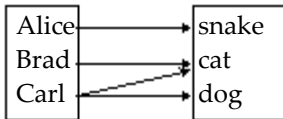
Solve the problem.

22) A truck rental company rents a moving truck one day by charging \$35 plus \$0.11 per mile. Write a linear equation that relates the cost C , in dollars, of renting the truck to the number x of miles driven. What is the cost of renting the truck if the truck is driven 140 miles?

- A) $C = 0.11x + 35$; \$50.40
 B) $C = 0.11x - 35$; \$19.60
 C) $C = 35x + 0.11$; \$4900.11
 D) $C = 0.11x + 35$; \$36.54

Determine whether the relation represents a function. If it is a function, state the domain and range.

23)



- A) function
 domain: {Alice, Brad, Carl}
 range: {snake, cat, dog}
 B) function
 domain: {snake, cat, dog}
 range: {Alice, Brad, Carl}
 C) not a function

Find the value for the function.

24) Find $f(-1)$ when $f(x) = \frac{x^2 - 4}{x + 3}$.

- A) $\frac{5}{4}$ B) $-\frac{3}{2}$
 C) $\frac{1}{2}$ D) $\frac{5}{2}$

Determine whether the relation represents a function. If it is a function, state the domain and range.

25) $\{(-2, 6), (2, 4), (4, 1), (8, -2)\}$

- A) function
 domain: $\{6, 4, 1, -2\}$
 range: $\{-2, 2, 4, 8\}$
 B) function
 domain: $\{-2, 2, 4, 8\}$
 range: $\{6, 4, 1, -2\}$
 C) not a function

Find the value for the function.

26) Find $f(-x)$ when $f(x) = \frac{x}{x^2 + 7}$.

- A) $\frac{-x}{x^2 - 7}$ B) $\frac{-x}{x^2 + 7}$
 C) $\frac{-x}{-x^2 + 7}$ D) $\frac{x}{-x^2 + 7}$

27) Find $f(x - 1)$ when $f(x) = 4x^2 + 2x + 4$.

- A) $4x^2 - 6x + 6$ B) $4x^2 + 18x + 10$
 C) $4x^2 - 6x + 10$ D) $-6x^2 + 4x + 6$

Find the domain of the function.

28) $f(x) = x^2 + 6$

- A) $\{x \mid x \neq -6\}$
 B) $\{x \mid x \geq -6\}$
 C) $\{x \mid x > -6\}$
 D) all real numbers

29) $g(x) = \frac{3x}{x^2 - 36}$

- A) $\{x \mid x > 36\}$
 B) $\{x \mid x \neq -6, 6\}$
 C) $\{x \mid x \neq 0\}$
 D) all real numbers

30) $h(x) = \frac{x - 1}{x^3 - 4x}$

- A) $\{x \mid x \neq 1\}$
 B) all real numbers
 C) $\{x \mid x \neq -2, 0, 2\}$
 D) $\{x \mid x \neq 0\}$

31) $f(x) = \sqrt{11 - x}$

A) $\{x \mid x \neq 11\}$

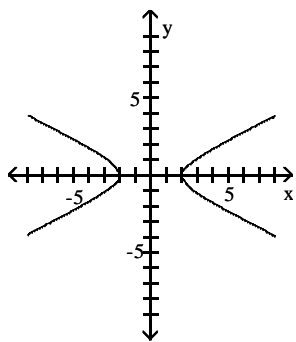
B) $\{x \mid x \leq \sqrt{11}\}$

C) $\{x \mid x \leq 11\}$

D) $\{x \mid x \neq \sqrt{11}\}$

Determine whether the graph is that of a function. If it is, use the graph to find its domain and range, the intercepts, if any, and any symmetry with respect to the x-axis, the y-axis, or the origin.

32)



A) function

domain: $\{x \mid -2 \leq x \leq 2\}$

range: all real numbers

intercepts: $(-2, 0), (2, 0)$

symmetry: x-axis, y-axis

B) function

domain: $\{x \mid x \leq -2 \text{ or } x \geq 2\}$

range: all real numbers

intercepts: $(-2, 0), (2, 0)$

symmetry: x-axis, y-axis, origin

C) function

domain: all real numbers

range: $\{y \mid y \leq -2 \text{ or } y \geq 2\}$

intercepts: $(-2, 0), (2, 0)$

symmetry: y-axis

D) not a function

For the given functions f and g , find the requested function and state its domain.

33) $f(x) = 2x - 5; g(x) = 5x - 8$

Find $f - g$.

A) $(f - g)(x) = 3x - 3; \text{ all real numbers}$

B) $(f - g)(x) = -3x - 13; \{x \mid x \neq -\frac{13}{3}\}$

C) $(f - g)(x) = 7x - 13; \{x \mid x \neq 1\}$

D) $(f - g)(x) = -3x + 3; \text{ all real numbers}$

34) $f(x) = 16 - x^2; g(x) = 4 - x$

Find $f + g$.

A) $(f + g)(x) = x^3 - 4x^2 - 16x + 64; \text{ all real numbers}$

B) $(f + g)(x) = -x^2 + x + 12; \text{ all real numbers}$

C) $(f + g)(x) = -x^2 - x + 20; \{x \mid x \neq 4, x \neq -5\}$

D) $(f + g)(x) = 4 + x; \{x \mid x \neq -4\}$

Find and simplify the difference quotient of f ,

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

35) $f(x) = 2x - 1$

A) 0

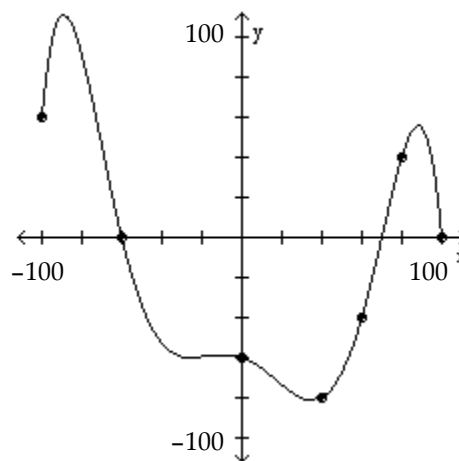
B) $2 + \frac{-2}{h}$

C) $2 + \frac{4(x-1)}{h}$

D) 2

The graph of a function f is given. Use the graph to answer the question.

36) Is $f(40)$ positive or negative?



A) positive

B) negative

Determine algebraically whether the function is even, odd, or neither.

37) $f(x) = -9x^2 - 4$

A) even

B) odd

C) neither

38) $\sqrt[3]{7x^2 + 6}$

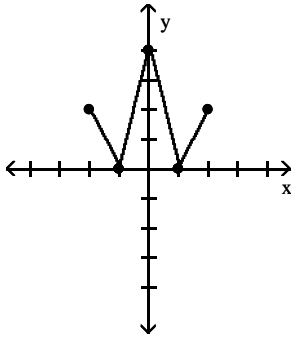
- A) even
- B) odd
- C) neither

39) $f(x) = \frac{-x^3}{4x^2 + 5}$

- A) even
- B) odd
- C) neither

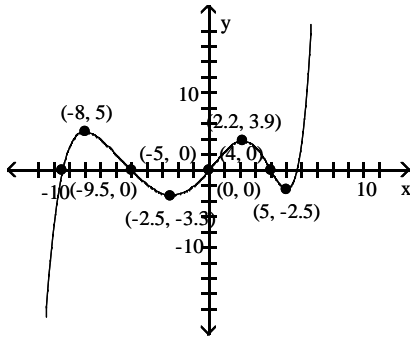
The graph of a function is given. Determine whether the function is increasing, decreasing, or constant on the given interval.

40) (0, 1)



- A) constant
- B) decreasing
- C) increasing

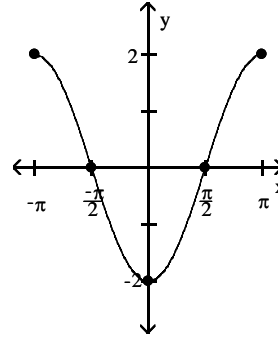
41) (5, ∞)



- A) constant
- B) decreasing
- C) increasing

The graph of a function f is given. Use the graph to answer the question.

42) Find the numbers, if any, at which f has a local maximum. What are the local maxima?



- A) f has a local maximum at $-\pi$; the local maximum is 2
- B) f has a local maximum at $x = 0$; the local maximum is -2
- C) f has a local maximum at $x = -\pi$ and π ; the local maximum is 2
- D) f has no local maximum

For the function, find the average rate of change of f from 1 to x :

$$\frac{f(x) - f(1)}{x - 1}, x \neq 1$$

43) $f(x) = \frac{9}{x + 8}$

A) $\frac{9}{x(x + 8)}$

B) $\frac{9}{(x - 1)(x + 8)}$

C) $\frac{1}{x + 8}$

D) $-\frac{1}{x + 8}$

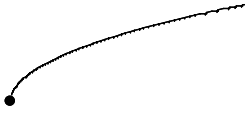
Match the graph to the function listed whose graph most resembles the one given.



44)

- A) absolute value function
- B) square function
- C) reciprocal function
- D) cube function

45)



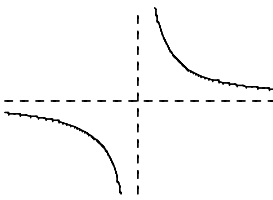
- A) square function
- B) cube root function
- C) square root function
- D) cube function

46)



- A) square root function
- B) cube function
- C) cube root function
- D) square function

47)



- A) absolute value function
- B) square function
- C) square root function
- D) reciprocal function

48)



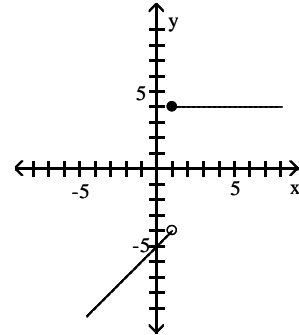
- A) square function
- B) cube function
- C) square root function
- D) cube root function

Graph the function.

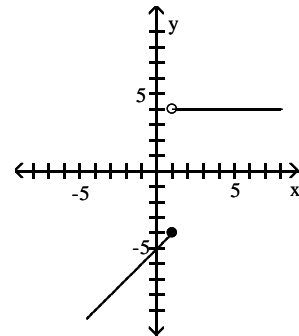
49)

$$f(x) = \begin{cases} x - 5 & \text{if } x < 1 \\ 4 & \text{if } x \geq 1 \end{cases}$$

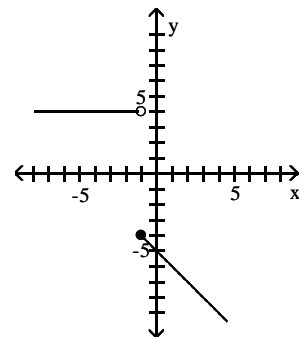
A)



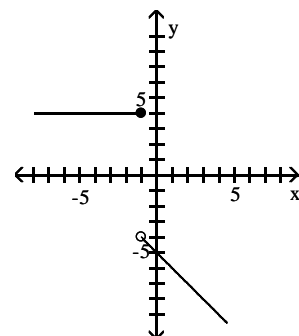
B)



C)



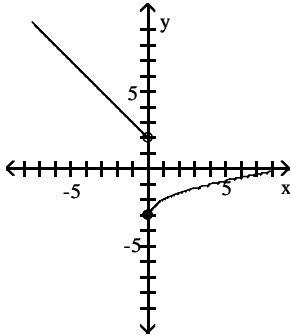
D)



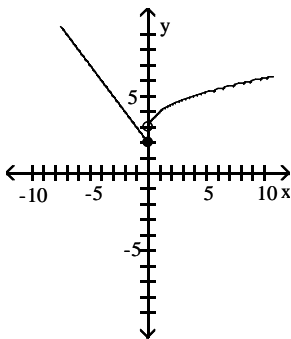
50)

$$f(x) = \begin{cases} -x + 2 & x < 0 \\ \sqrt{x} + 3 & x \geq 0 \end{cases}$$

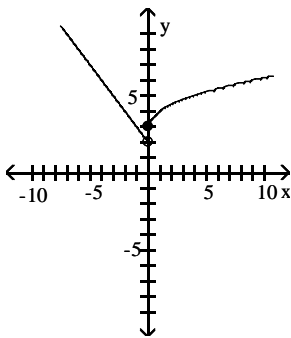
A)



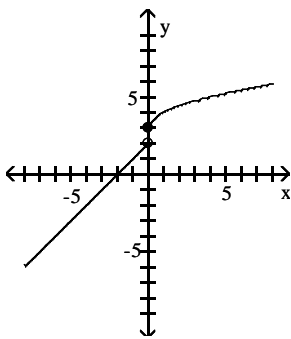
B)



C)



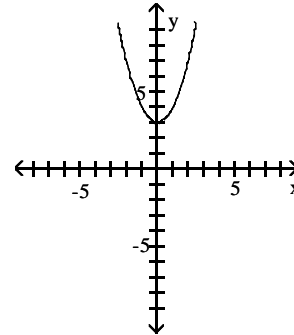
D)



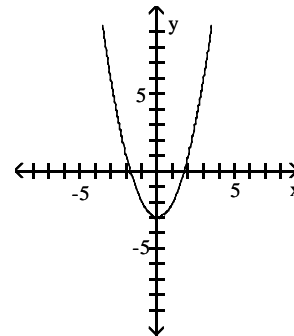
Graph the function by starting with the graph of the basic function and then using the techniques of shifting, compressing, stretching, and/or reflecting.

51) $f(x) = x^2 - 3$

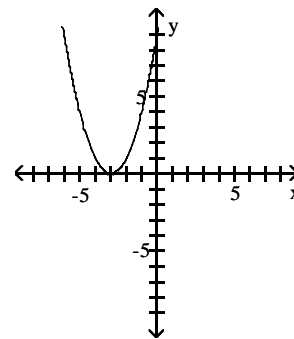
A)



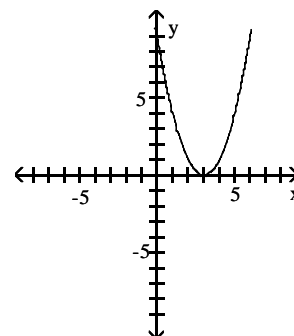
B)



C)

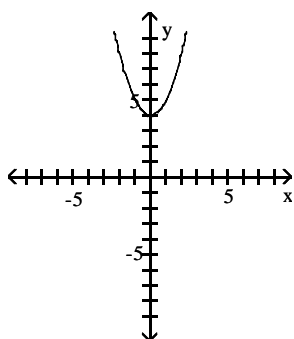


D)

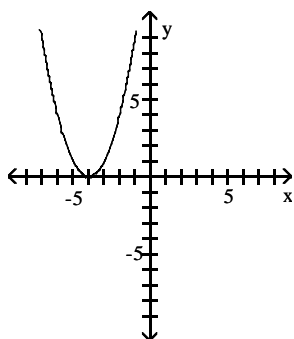


52) $f(x) = (x + 4)^2$

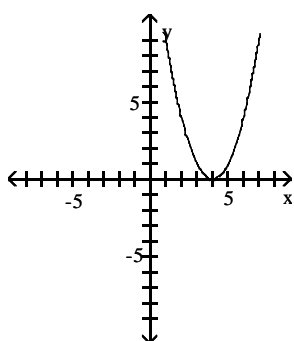
A)



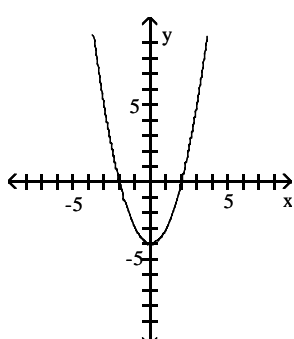
B)



C)

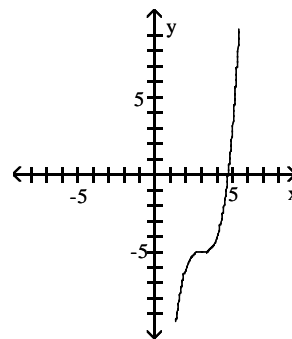


D)

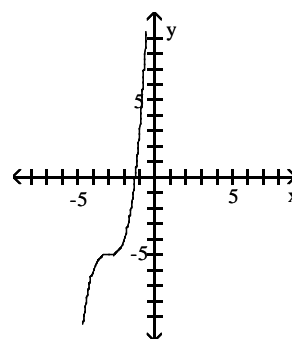


53) $f(x) = (x - 3)^3 - 5$

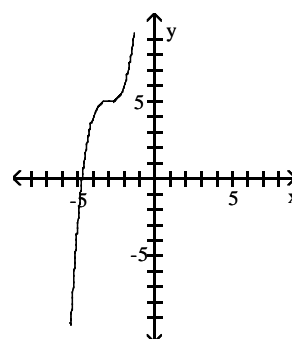
A)



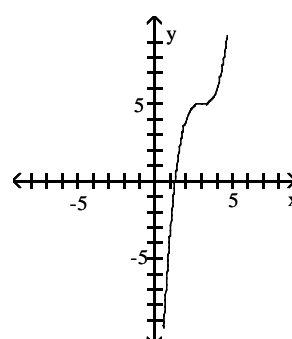
B)



C)

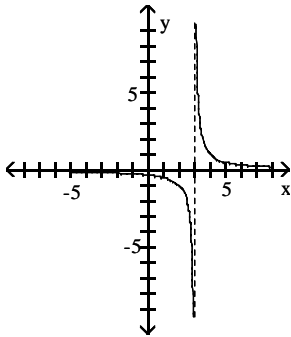


D)

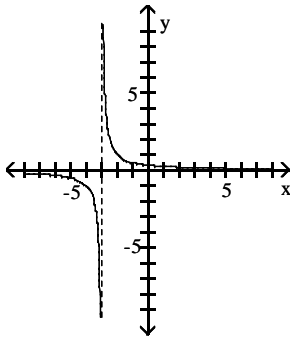


54) $f(x) = \frac{1}{x} - 3$

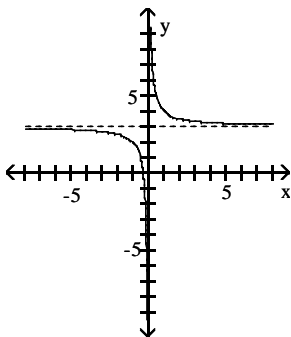
A)



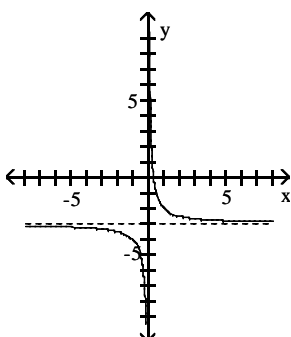
B)



C)

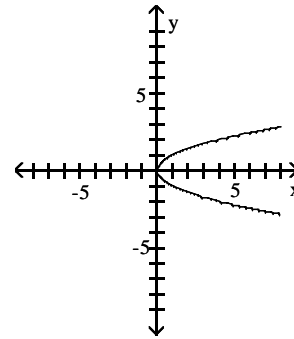


D)

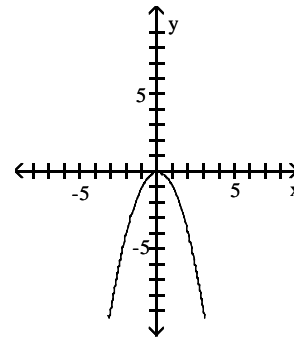


55) $f(x) = (-x)^2$

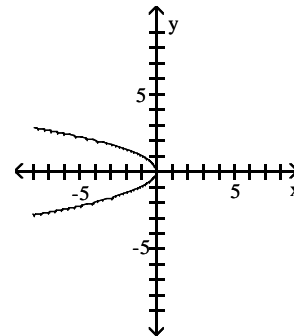
A)



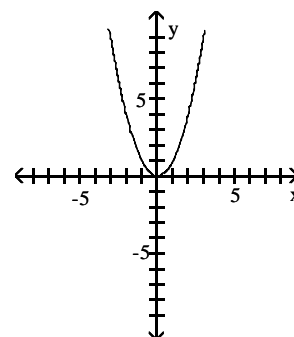
B)



C)

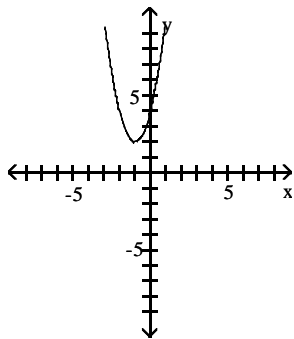


D)

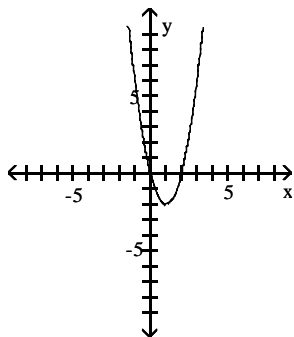


56) $f(x) = 2(x + 1)^2 + 2$

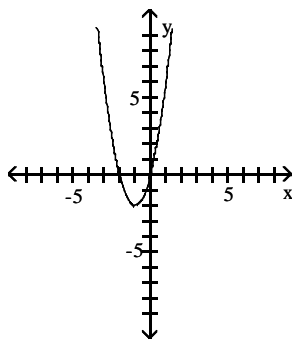
A)



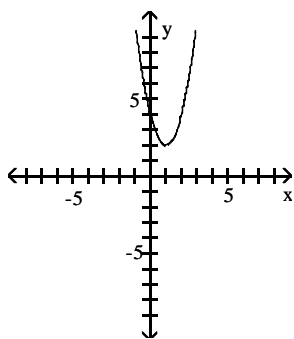
B)



C)

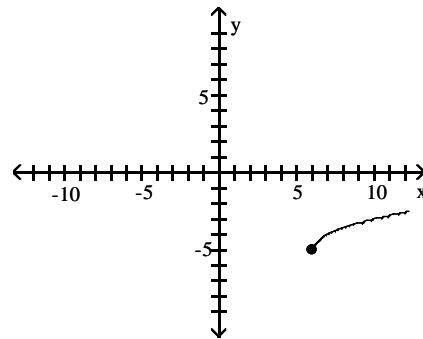


D)

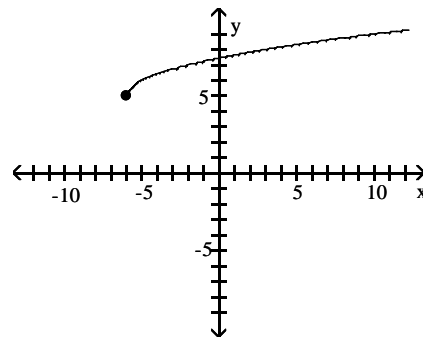


57) $f(x) = \sqrt{x + 6} + 5$

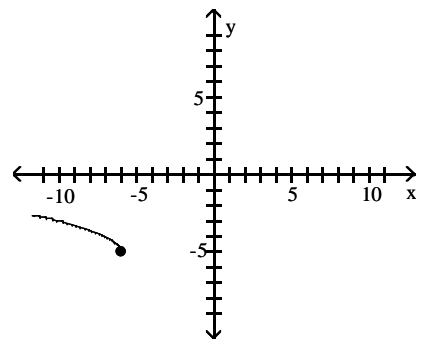
A)



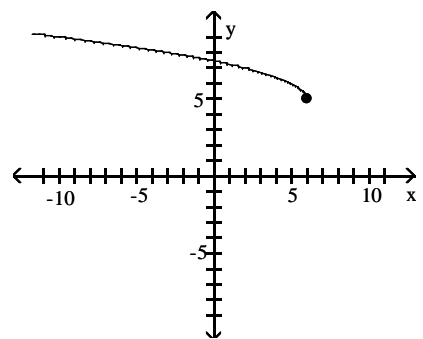
B)



C)



D)



Solve the problem.

58) A wire of length $3x$ is bent into the shape of a square. Express the area A of the square as a function of x .

- A) $A(x) = \frac{3}{4}x^2$ B) $A(x) = \frac{1}{16}x^2$
 C) $A(x) = \frac{9}{16}x^2$ D) $A(x) = \frac{9}{8}x^2$

Find the vertex and axis of symmetry of the graph of the function.

59) $f(x) = -2x^2 + 16x$

- A) $(-4, 0)$; $x = -4$ B) $(4, 32)$; $x = 4$
 C) $(-4, 32)$; $x = -4$ D) $(4, 0)$; $x = 4$

60) $f(x) = 4x^2 + 24x - 1$

- A) $(-3, -37)$; $x = -3$
 B) $(-3, 107)$; $x = -3$
 C) $(3, 107)$; $x = 3$
 D) $(3, 35)$; $x = 3$

Solve the problem.

61) The owner of a video store has determined that the cost C , in dollars, of operating the store is approximately given by

$C(x) = 2x^2 - 26x + 800$, where x is the number of videos rented daily. Find the lowest cost to the nearest dollar.

- A) \$462 B) \$631
 C) \$716 D) \$885

State whether the function is a polynomial function or not. If it is, give its degree. If it is not, tell why not.

62) $f(x) = x(x - 10)$

- A) No; it is a product
 B) Yes; degree 2
 C) Yes; degree 1
 D) Yes; degree 0

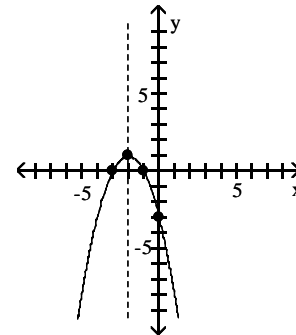
63) $f(x) = x(x - 11)$

- A) Yes; degree 0
 B) No; it is a product
 C) Yes; degree 2
 D) Yes; degree 1

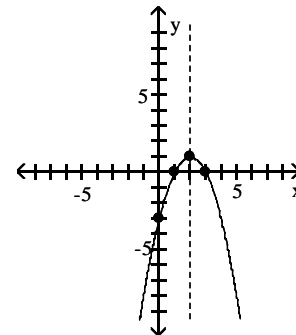
Graph the function using its vertex, axis of symmetry, and intercepts.

64) $f(x) = x^2 + 4x + 3$

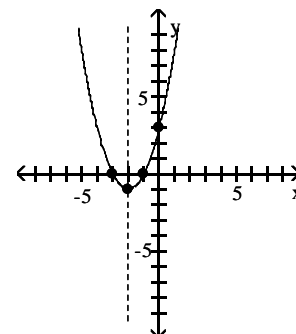
- A) vertex $(-2, 1)$
 intercepts $(-1, 0)$, $(-3, 0)$, $(0, -3)$



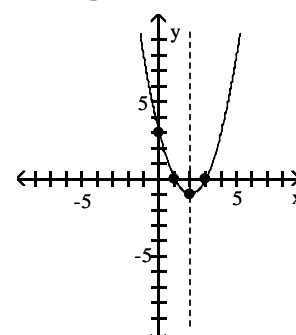
- B) vertex $(2, 1)$
 intercepts $(1, 0)$, $(3, 0)$, $(0, -3)$



- C) vertex $(-2, -1)$
 intercepts $(-1, 0)$, $(-3, 0)$, $(0, 3)$



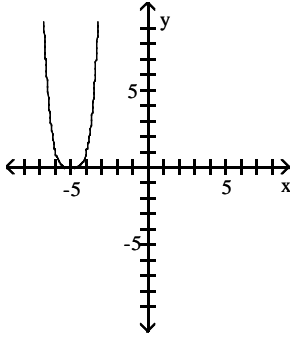
- D) vertex $(2, -1)$
 intercepts $(1, 0)$, $(3, 0)$, $(0, 3)$



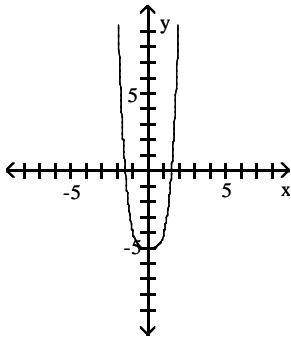
Use transformations of the graph of $y = x^4$ or $y = x^5$ to graph the function.

65) $f(x) = x^4 + 5$

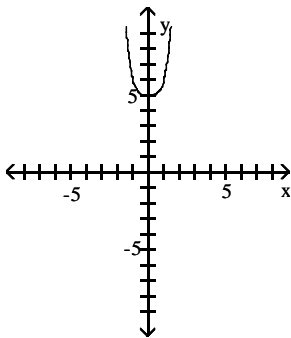
A)



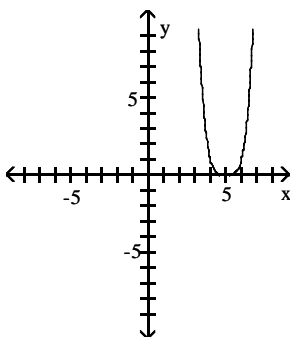
B)



C)

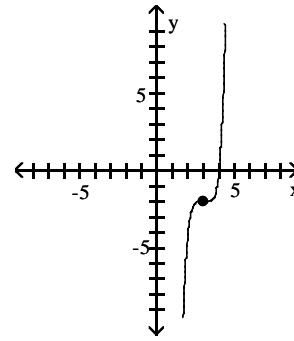


D)

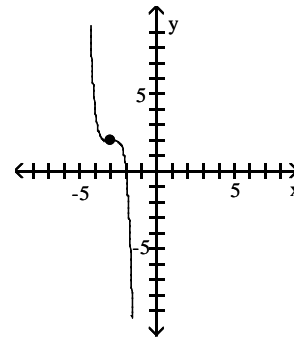


66) $f(x) = -2(x + 3)^5 + 2$

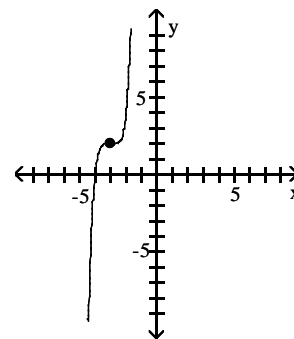
A)



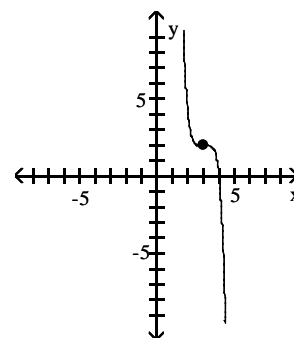
B)



C)



D)



Form a polynomial whose zeros and degree are given.

67) Zeros: -3, -1, 2; degree 3

- A) $f(x) = x^3 + 2x^2 - 5x - 6$ for $a = 1$
- B) $f(x) = x^3 - 2x^2 + 5x - 6$ for $a = 1$
- C) $f(x) = x^3 + 2x^2 + 5x + 6$ for $a = 1$
- D) $f(x) = x^3 - 2x^2 - 5x + 6$ for $a = 1$

For the polynomial, list each real zero and its multiplicity. Determine whether the graph crosses or touches the x-axis at each x-intercept.

68) $f(x) = 2(x - 5)(x - 4)^2$

- A) -5, multiplicity 1, touches x-axis; -4, multiplicity 2, crosses x-axis
- B) 5, multiplicity 1, touches x-axis; 4, multiplicity 2, crosses x-axis
- C) -5, multiplicity 1, crosses x-axis; -4, multiplicity 2, touches x-axis
- D) 5, multiplicity 1, crosses x-axis; 4, multiplicity 2, touches x-axis

Give the equation of the specified asymptote(s).

69) Vertical asymptote(s): $f(x) = \frac{3x - 7}{x^2 - 5x - 14}$

- A) $x = -7, x = 2$
- B) $x = \frac{7}{3}, x = 7, x = -2$
- C) $x = 7, x = -2$
- D) no vertical asymptotes

Find the indicated intercept(s) of the graph of the

70) x-intercepts of $f(x) = \frac{x^2 + 7x}{x^2 + 7x - 3}$

- A) (0, 0) and (-7, 0)
- B) (-7, 0)
- C) (7, 0)
- D) (0, 0) and (7, 0)

71) x-intercepts of $f(x) = \frac{x^2 + 5x}{x^2 + 7x - 7}$

- A) (5, 0)
- B) (0, 0) and (5, 0)
- C) (-5, 0)
- D) (0, 0) and (-5, 0)

Solve the inequality.

72) $x^2 - 6x \geq -8$

- A) $(-\infty, 2]$
- B) $[4, \infty)$
- C) $[2, 4]$
- D) $(-\infty, 2]$ or $[4, \infty)$

73) $\frac{x - 4}{x + 6} > 0$

- A) $(-\infty, -6)$ or $(4, \infty)$
- B) $(-\infty, -6)$
- C) $(4, \infty)$
- D) $(-6, 4)$

74) $\frac{15}{x - 4} > \frac{12}{x - 1}$

- A) $(-11, 1)$ or $(4, \infty)$
- B) $(-\infty, -11)$ or $(1, 4)$
- C) $(-11, 1)$ or $(1, 4)$
- D) $(-\infty, -11)$ or $(4, \infty)$

Use the Factor Theorem to determine whether $x - c$ is a factor of $f(x)$.

75) $f(x) = x^3 + 7x^2 - 16x + 18$; $x + 9$

- A) Yes
- B) No

76) $f(x) = x^4 + 10x^3 + 3x^2 + 26x - 40$; $x - 10$

- A) Yes
- B) No

List the potential rational zeros of the polynomial function. Do not find the zeros.

77) $f(x) = 3x^4 - x^2 + 2$

A) $\pm \frac{1}{3}, \pm \frac{1}{2}, \pm 1, \pm 2, \pm 3$

B) $\pm \frac{1}{3}, \pm \frac{2}{3}, \pm 1, \pm 2, \pm 3$

C) $\pm \frac{1}{2}, \pm \frac{3}{2}, \pm 1, \pm 3$

D) $\pm \frac{1}{3}, \pm \frac{2}{3}, \pm 1, \pm 2$

Find all of the real zeros of the polynomial function, then use the real zeros to factor f over the real numbers.

78) $f(x) = 2x^3 + 3x^2 - 9x - 10$

A) $-2, -\frac{5}{2}, 1; f(x) = (x + 2)(2x + 5)(x - 1)$

B) $-\frac{5}{2}, -1, 2; f(x) = (2x + 5)(x + 1)(x - 2)$

C) $-2, \frac{5}{2}, 1; f(x) = (x + 2)(2x - 5)(x + 2)$

D) $2; f(x) = (x - 2)(2x^2 + 7x + 5)$

Solve the equation in the real number system.

79) $2x^3 - x^2 - 10x + 5 = 0$

A) $\{ 2, \sqrt{5}, -\sqrt{5} \}$

B) $\{ -\frac{1}{2}, \sqrt{5}, -\sqrt{5} \}$

C) $\{ \frac{1}{2}, \sqrt{5}, -\sqrt{5} \}$

D) $\{ -2, \sqrt{5}, -\sqrt{5} \}$

Find the indicated composite for the pair of functions.

80) $(f \circ g)(x): f(x) = 5x + 8, g(x) = 3x - 1$

A) $15x + 3$

B) $15x + 23$

C) $15x + 13$

D) $15x + 7$

81) $(g \circ f)(x): f(x) = \frac{x - 9}{5}, g(x) = 5x + 9$

A) $x - \frac{9}{5}$

B) $5x + 36$

C) $x + 18$

D) x

Find the inverse. Determine whether the inverse represents a function.

82) $\{(20, 7), (-8, 7), (15, 9)\}$

A) $\{(7, 20), (7, -8), (9, 15)\}$; not a function

B) $\{(7, 20), (15, -8), (9, 7)\}$; not a function

C) $\{(7, 20), (7, -8), (9, 15)\}$; a function

D) $\{(20, 7), (7, -8), (9, 15)\}$; not a function

Decide whether or not the functions are inverses of each other.

83) $f(x) = 9x + 6; g(x) = \frac{x}{9} - 6$

A) Yes

B) No

If the following defines a one-to-one function, find the inverse.

84) $f(x) = (x + 2)^3 - 8.$

A) $f^{-1}(x) = \sqrt[3]{x - 2} + 8$

B) $f^{-1}(x) = \sqrt[3]{x + 8} - 2$

C) $f^{-1}(x) = \sqrt[3]{x + 10}$

D) $f^{-1}(x) = \sqrt[3]{x + 6}$

Solve the equation.

85) $3^{-x} = \frac{1}{9}$

A) $\frac{1}{3}$

B) 2

C) -2

D) $\frac{1}{2}$

86) $2^{x^2 - 3} = 64$

A) 3, -3

B) $\sqrt{35}, -\sqrt{35}$

C) 6

D) 3

Change the logarithmic expression to an equivalent expression involving an exponent.

87) $\log_2 8 = 3$

A) $3^2 = 8$

B) $2^3 = 8$

C) $8^3 = 2$

D) $2^8 = 3$

Find the exact value of the logarithmic expression.

88) $\log_4 \frac{1}{64}$

A) $-\frac{1}{3}$

B) $\frac{1}{3}$

C) 3

D) -3

89) $\log_{10} \sqrt{10}$

A) 1

B) $\frac{1}{2}$

C) $\frac{1}{10}$

D) 10

90) $\ln e$

A) -1

B) 1

C) 0

D) e

91) $\ln 1$

A) 1

B) -1

C) e

D) 0

Find the domain of the function.

92) $f(x) = \log(x - 5)$

A) $x > 1$

B) $x > -5$

C) $x > 0$

D) $x > 5$

Use the properties of logarithms to find the exact value of the expression. Do not use a calculator.

93) $\ln e^3$

A) 81

B) 3

C) 9

D) e

94) $\log_{140} 20 + \log_{140} 7$

A) 140

B) 20

C) 1

D) 7

95) $\log_{17} 34 - \log_{17} 2$

A) 17

B) 2

C) 34

D) 1

96) $\log_4 13 \cdot \log_{13} 64$

A) 64

B) 4

C) 13

D) 3

Solve the equation.

97) $\log(2 + x) - \log(x - 2) = \log 3$

A) 4

B) -4

C) \emptyset

D) $\frac{3}{2}$

Solve the system of equations by substitution.

98)

$$\begin{cases} x + 7y = -2 \\ 3x + y = 34 \end{cases}$$

A) $x = 7, y = 12$

B) $x = 12, y = -2$

C) $x = 3, y = 7$

D) $x = -2, y = 3$

Solve the system of equations by elimination.

99)
$$\begin{cases} 6x + 3y = 51 \\ 2x - 6y = 38 \end{cases}$$

A) $x = 10, y = -3$

B) $x = 3, y = -10$

C) $x = -3, y = 10$

D) $x = -10, y = 3$

Solve the system of equations.

100)

$$\begin{cases} 5x + 5y + z = 11 \\ 5x - 2y - z = -16 \\ 2x + y + 3z = -11 \end{cases}$$

A) $x = -4, y = 5, z = -2$

B) $x = -2, y = -4, z = 5$

C) $x = -2, y = 5, z = -4$

D) inconsistent

Answer Key

Testname: 135 STUDY GUIDE FALL 05

- 1) C
- 2) A
- 3) C
- 4) C
- 5) B
- 6) E
- 7) A
- 8) C
- 9) B
- 10) C
- 11) A
- 12) C
- 13) B
- 14) D
- 15) C
- 16) A
- 17) A
- 18) C
- 19) B
- 20) B
- 21) A
- 22) A
- 23) C
- 24) B
- 25) B
- 26) B
- 27) A
- 28) D
- 29) B
- 30) C
- 31) C
- 32) D
- 33) D
- 34) C
- 35) D
- 36) B
- 37) A
- 38) A
- 39) B
- 40) B
- 41) C
- 42) C
- 43) D
- 44) B
- 45) C
- 46) B
- 47) D
- 48) D
- 49) A
- 50) C
- 51) B
- 52) B
- 53) A
- 54) D
- 55) D
- 56) A
- 57) B
- 58) C
- 59) B
- 60) A
- 61) C
- 62) B
- 63) C
- 64) C
- 65) C
- 66) B
- 67) A
- 68) D
- 69) C
- 70) A
- 71) D
- 72) D
- 73) A
- 74) A
- 75) A
- 76) B
- 77) D
- 78) B
- 79) C
- 80) A
- 81) D
- 82) A
- 83) B
- 84) B
- 85) B
- 86) A
- 87) B
- 88) D
- 89) B
- 90) B
- 91) D
- 92) D
- 93) B
- 94) C
- 95) D
- 96) D
- 97) A
- 98) B
- 99) A
- 100) C