Exam

Name_____

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MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the domain of the function.

1) $f(x) = \dfrac{x^2}{x^2 + 4}$ 1) _____

A) $\{x \mid x \neq -4\}$ B) $\{x \mid x \neq 0\}$

C) $\{x \mid x > -4\}$ D) all real numbers

Answer: D

Objective: (2.1) Find the Domain of a Function Defined by an Equation

2) $h(x) = \dfrac{x - 2}{x^3 - 64x}$ 2) _____

A) all real numbers B) $\{x \mid x \neq 0\}$

C) $\{x \mid x \neq -8, 0, 8\}$ D) $\{x \mid x \neq 2\}$

Answer: C

Objective: (2.1) Find the Domain of a Function Defined by an Equation

3) $f(x) = \sqrt{23 - x}$ 3) _____

A) $\{x \mid x \neq \sqrt{23}\}$ B) $\{x \mid x \leq 23\}$ C) $\{x \mid x \leq \sqrt{23}\}$ D) $\{x \mid x \neq 23\}$

Answer: B

Objective: (2.1) Find the Domain of a Function Defined by an Equation

4) $\dfrac{x}{\sqrt{x - 6}}$ 4) _____

A) $\{x \mid x \neq 6\}$ B) $\{x \mid x > 6\}$

C) all real numbers D) $\{x \mid x \geq 6\}$

Answer: B

Objective: (2.1) Find the Domain of a Function Defined by an Equation

Find and simplify the difference quotient of f, $\dfrac{f(x + h) - f(x)}{h}$, $h \neq 0$, for the function.

5) $f(x) = 4x - 9$ 5) _____

A) $4 + \dfrac{-18}{h}$ B) 0 C) $4 + \dfrac{8(x - 9)}{h}$ D) 4

Answer: D

Objective: (2.1) Form the Sum, Difference, Product, and Quotient of Two Functions

6) $f(x) = 8x^2$ 6) _____

A) $\frac{8(2x^2 + 2xh + h^2)}{h}$

B) $\frac{16}{h} + x + 8h$

C) $8(2x+h)$

D) 8

Answer: C
Objective: (2.1) Form the Sum, Difference, Product, and Quotient of Two Functions

7) $f(x) = \frac{1}{6x}$ 7) _____

A) 0

B) $\frac{1}{6x}$

C) $\frac{-1}{6x\,(x + h)}$

D) $\frac{-1}{x(x + h)}$

Answer: C
Objective: (2.1) Form the Sum, Difference, Product, and Quotient of Two Functions

8) $f(x) = x^2 + 7x + 2$ 8) _____

A) $2x + h + 2$

B) $2x + h + 7$

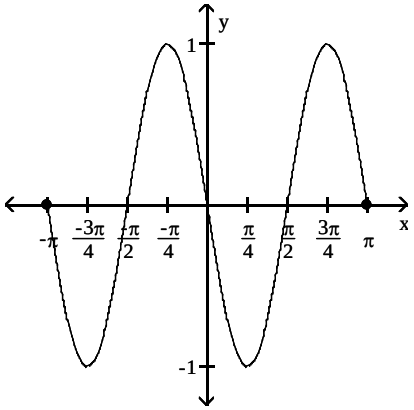
C) 1

D) $\frac{2x^2 + 2x + 2xh + h^2 + h + 4}{h}$

Answer: B
Objective: (2.1) Form the Sum, Difference, Product, and Quotient of Two Functions

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.

9) 9) _____



A) function
domain: {x | –1 ≤ x ≤ 1}
range: {y | –π ≤ y ≤ π}
intercepts: $(-\pi, 0), (-\frac{\pi}{2}, 0), (0, 0), (\frac{\pi}{2}, 0), (\pi, 0)$
symmetry: none

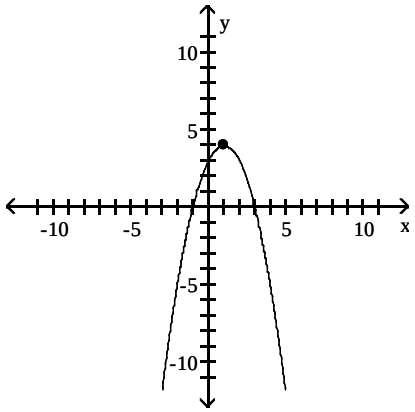
B) function
domain: all real numbers
range: {y | –1 ≤ y ≤ 1}
intercepts: $(-\pi, 0), (-\frac{\pi}{2}, 0), (0, 0), (\frac{\pi}{2}, 0), (\pi, 0)$
symmetry: origin

C) function
domain: {x | –π ≤ x ≤ π}
range: {y | –1 ≤ y ≤ 1}
intercepts: $(-\pi, 0), (-\frac{\pi}{2}, 0), (0, 0), (\frac{\pi}{2}, 0), (\pi, 0)$
symmetry: origin

D) not a function

Answer: C
Objective: (2.2) Identify the Graph of a Function

10) 10) _____



A) function
domain: all real numbers
range: {y | y ≤ 4}
intercepts: (–1, 0), (0, 3), (3, 0)
symmetry: none

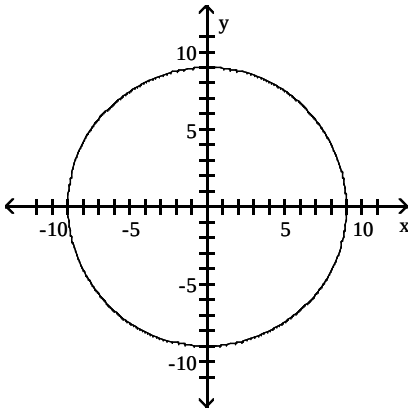
B) function
domain: all real numbers
range: {y | y ≤ 4}
intercepts: (0, –1), (3, 0), (0, 3)
symmetry: none

C) function
domain: {x | x ≤ 4}
range: all real numbers
intercepts: (–1, 0), (0, 3), (3, 0)
symmetry: y–axis

D) not a function

Answer: A
Objective: (2.2) Identify the Graph of a Function

11) 11) _____



A) function
domain: {x | –9 ≤ x ≤ 9}
range: {y | –9 ≤ y ≤ 9}
intercepts: (–9, 0), (0, –9), (0, 9), (9, 0)
symmetry: x–axis, y–axis, origin

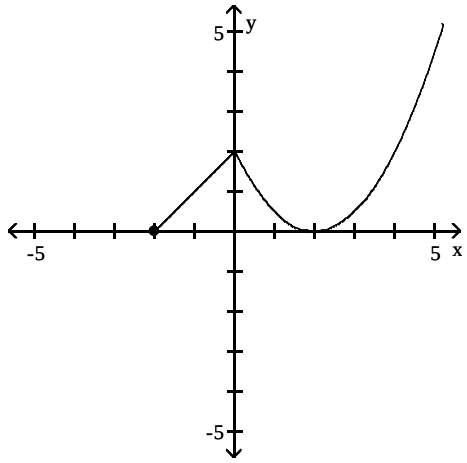
B) function
domain: {x | –9 ≤ x ≤ 9}
range: {y | –9 ≤ y ≤ 9}
intercepts: (–9, 0), (0, –9), (0, 0), (0, 9), (9, 0)
symmetry: origin

C) function
domain: {x | –9 ≤ x ≤ 9}
range: {y | –9 ≤ y ≤ 9}
intercepts: (–9, 0), (0, –9), (0, 9), (9, 0)
symmetry: x–axis, y–axis

D) not a function

Answer: D
Objective: (2.2) Identify the Graph of a Function

12) 12) _____



A) function
domain: {x | x ≥ 0}
range: {y | y ≥ –2}
intercepts: (–2, 0), (0, 2), (2, 0)
symmetry: y–axis

B) function
domain: {x | x ≥ –2}
range: {y | y ≥ 0}
intercepts: (–2, 0), (0, 2), (2, 0)
symmetry: none

C) function
domain: all real numbers
range: all real numbers
intercepts: (–2, 0), (0, 2), (2, 0)
symmetry: none

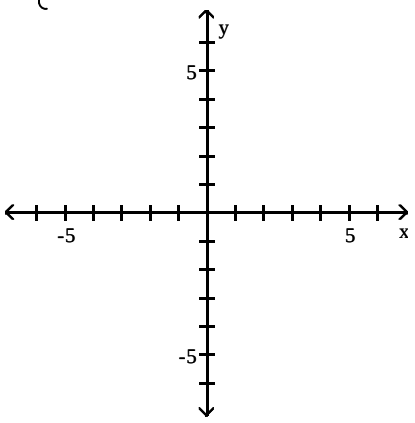
D) not a function

Answer: B
Objective: (2.2) Identify the Graph of a Function

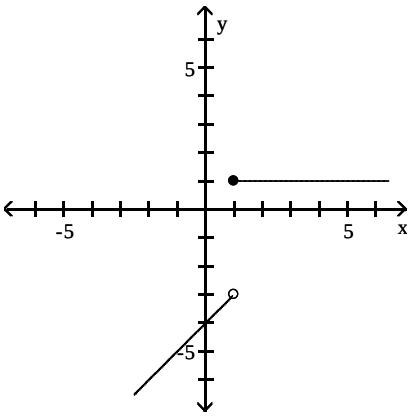
Graph the function.

13) 13) _____

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



A)



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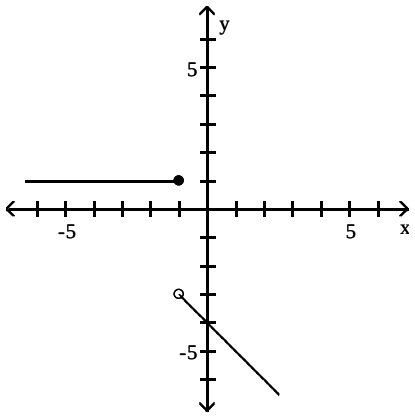

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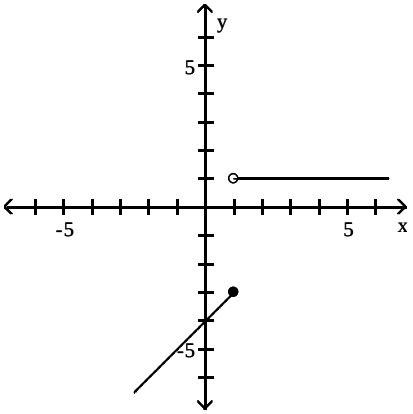
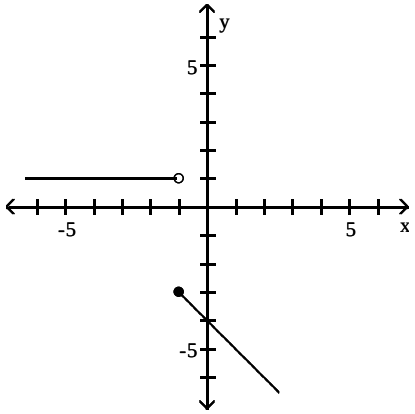


D)

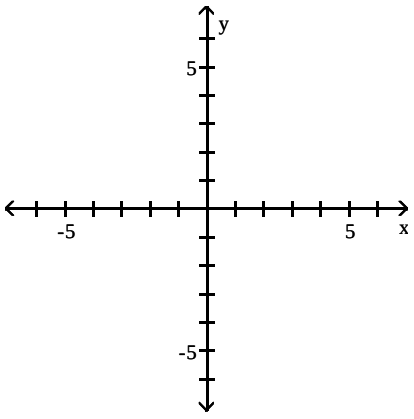


Answer: A

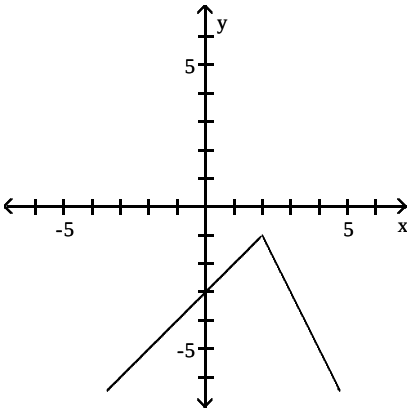
Objective: (2.4) Graph Piecewise-defined Functions

14) 14) _____

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



A)



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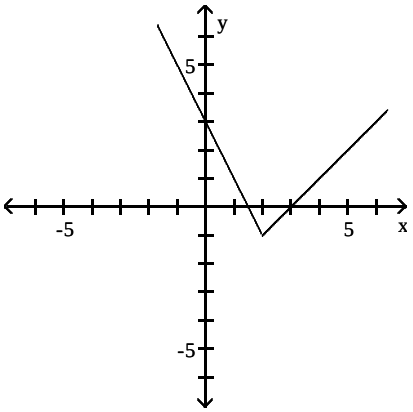

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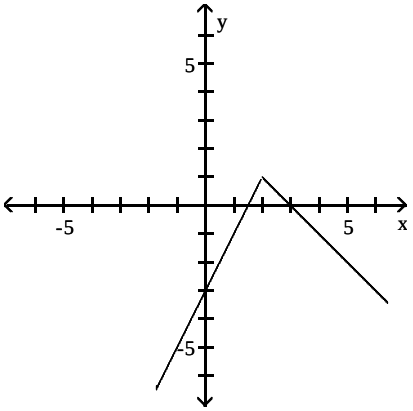

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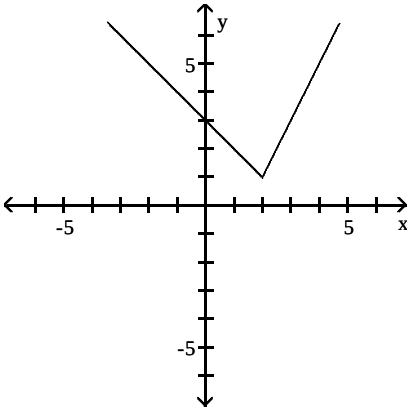
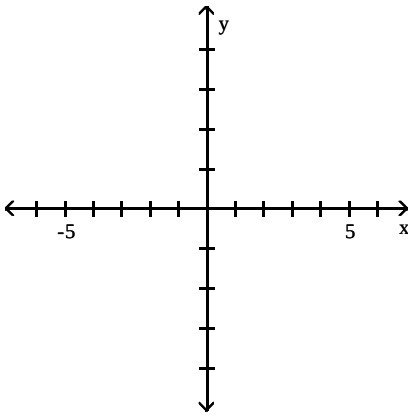


Answer: D

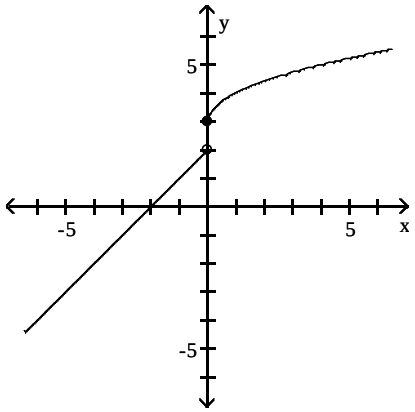
Objective: (2.4) Graph Piecewise-defined Functions

15) 15) _____

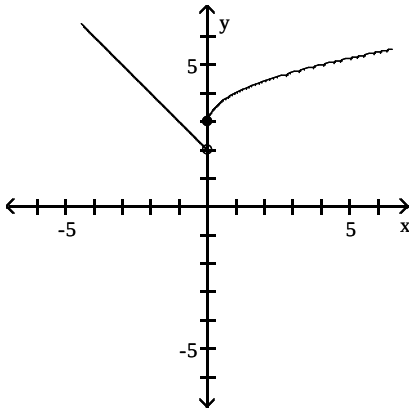
$$f(x) = \begin{cases} -x + 2 & x < 0 \\ \sqrt{x} + 3 & x \geq 0 \end{cases}$$



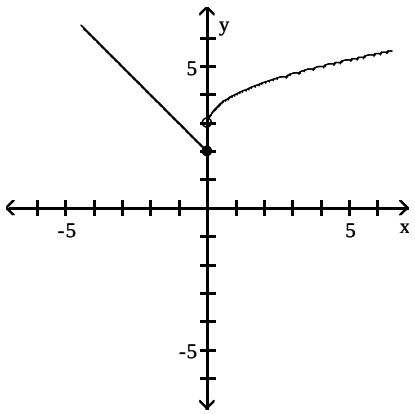
A)



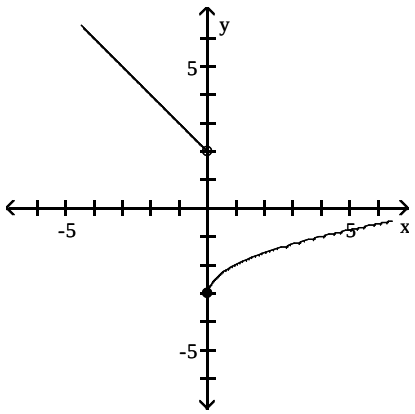
B)



C)



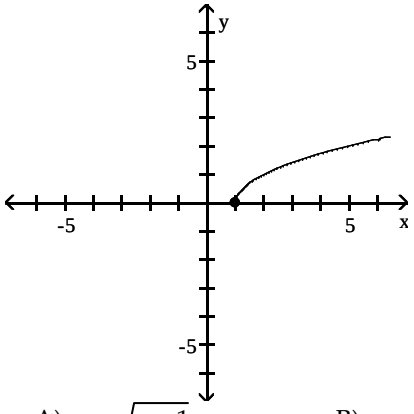
D)



Answer: B
Objective: (2.4) Graph Piecewise–defined Functions

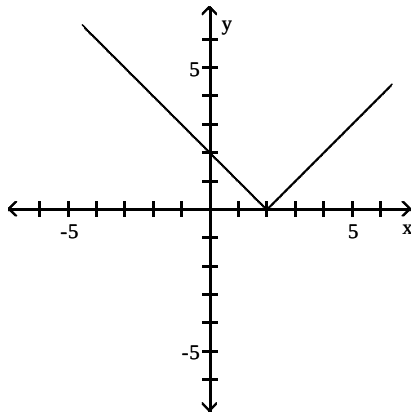
Match the correct function to the graph.

16) 16) _____



A) $y = \sqrt{x + 1}$ B) $y = x - 1$ C) $y = \sqrt{x - 1}$ D) $y = \sqrt{x}$

Answer: C
Objective: (2.5) Graph Functions Using Vertical and Horizontal Shifts

17) 

17) _____

A) $y = x - 2$ B) $y = |x + 2|$ C) $y = |1 - x|$ D) $y = |2 - x|$

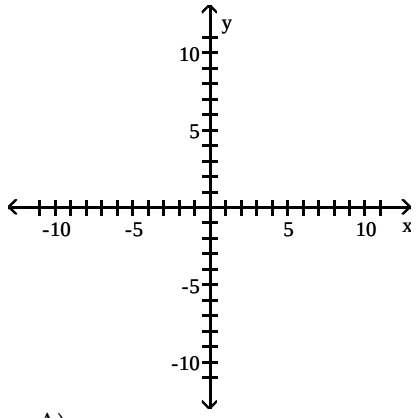
Answer: D

Objective: (2.5) Graph Functions Using Vertical and Horizontal Shifts

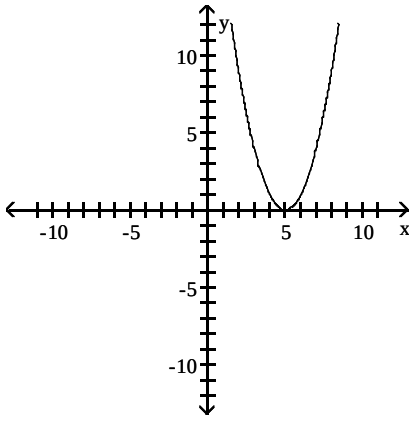
Graph the function by starting with the graph of the basic function and then using the techniques of shifting, compressing, stretching, and/or reflecting.

18) $f(x) = x^2 - 5$

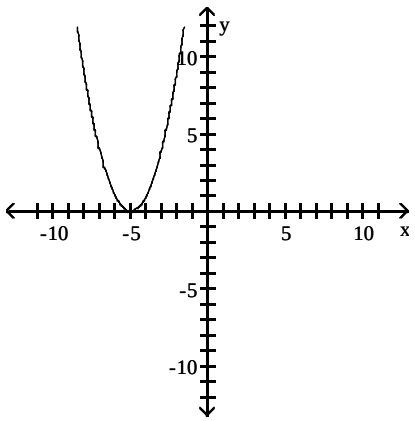
18) _____



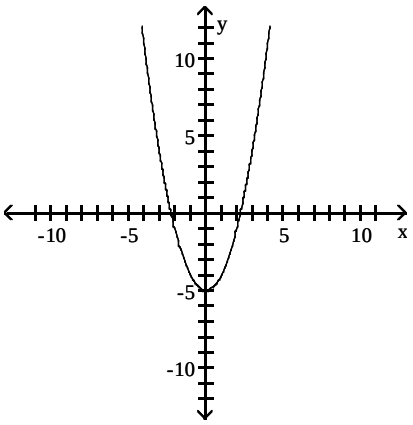
A)



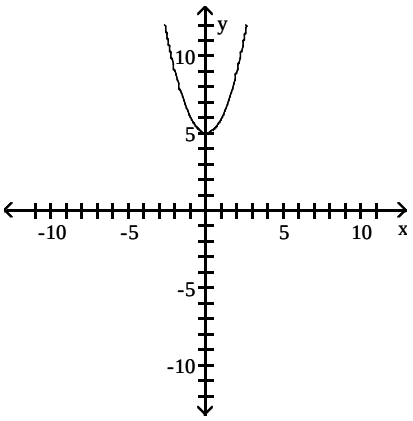
B)



C)



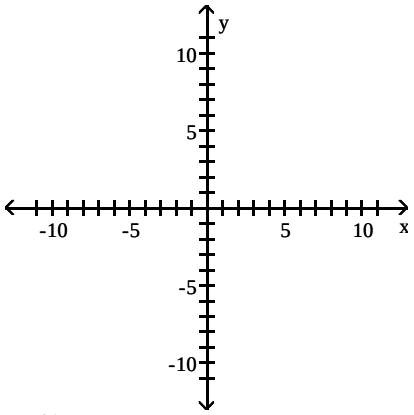
D)



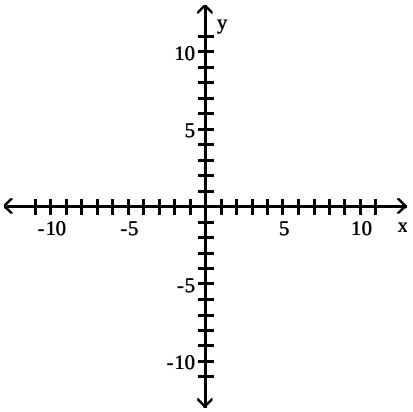
Answer: C

Objective: (2.5) Graph Functions Using Vertical and Horizontal Shifts

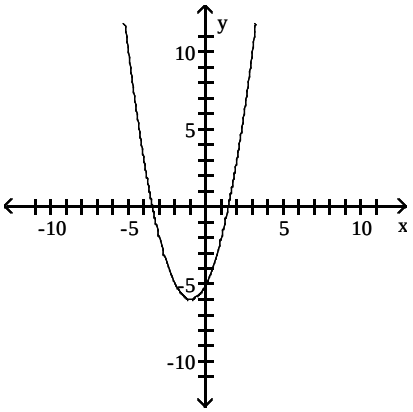
19) $f(x) = (x + 1)^2 - 6$ 19) _____



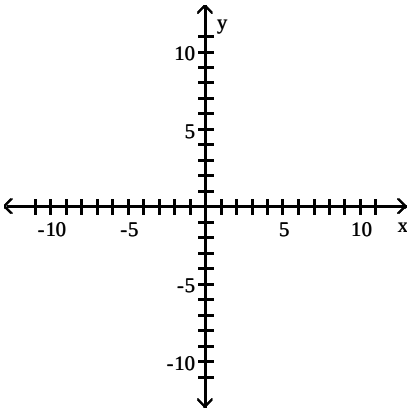
A)



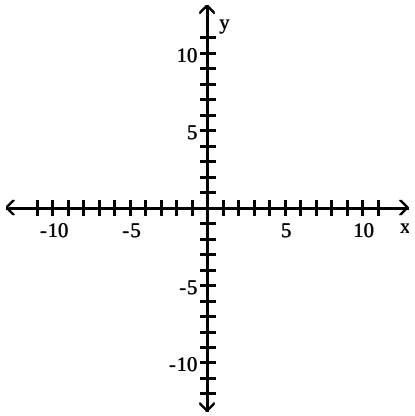
B)



C)



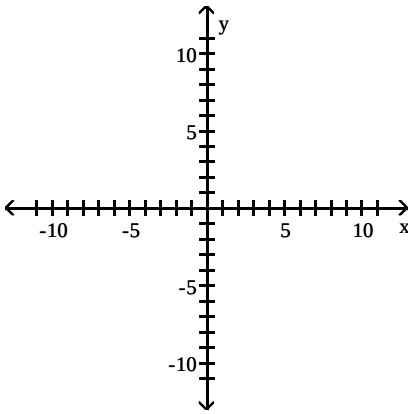
D)



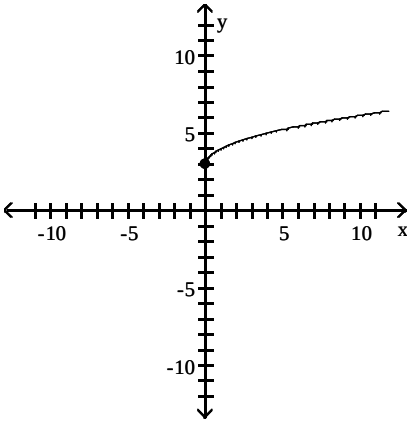
Answer: B

Objective: (2.5) Graph Functions Using Vertical and Horizontal Shifts

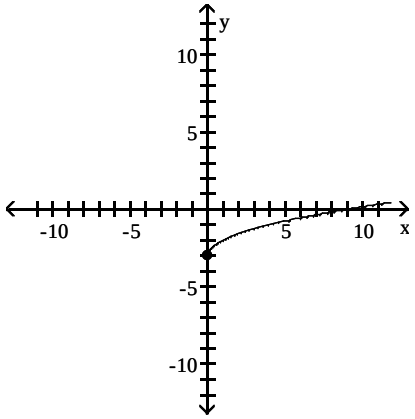
20) $f(x) = \sqrt{x + 3}$ 20) _____



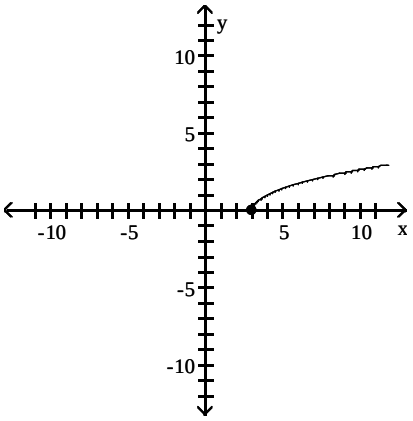
A)



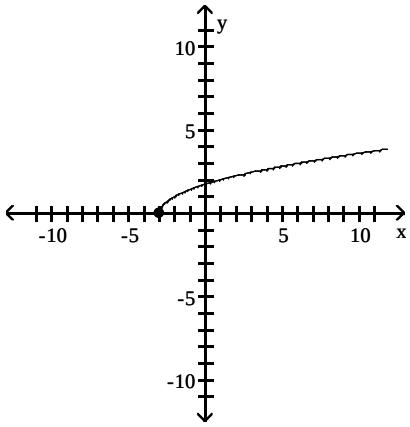
B)



C)



D)



Answer: D
Objective: (2.5) Graph Functions Using Vertical and Horizontal Shifts

Determine the average rate of change for the function.

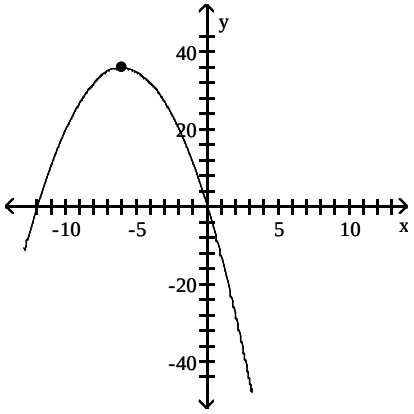
21) f(x) = 10x + 9 21) _____

A) –10 B) 10 C) –9 D) 9

Answer: B
Objective: (3.1) Use Average Rate of Change to Identify Linear Functions

Match the graph to one of the listed functions.

22) 22) _____

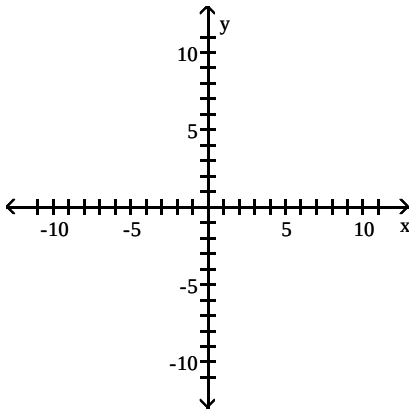


A) $f(x) = -x^2 - 12x$ B) $f(x) = x^2 - 12x$ C) $f(x) = x^2 - 12$ D) $f(x) = -x^2 - 12$

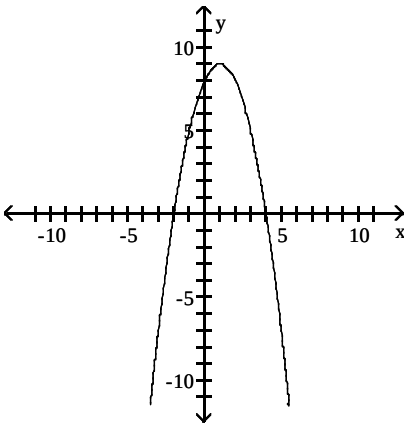
Answer: A
Objective: (3.3) Graph a Quadratic Function Using Transformations

Graph the function f by starting with the graph of $y = x^2$ and using transformations (shifting, compressing, stretching, and/or reflection).

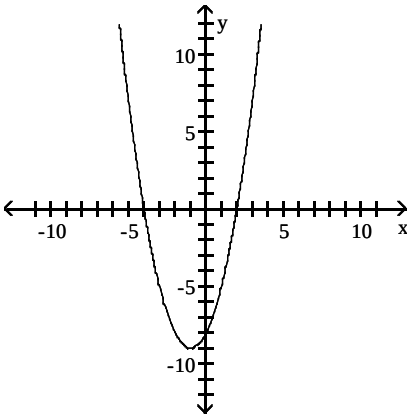
23) $f(x) = x^2 + 2x - 8$ 23) _____



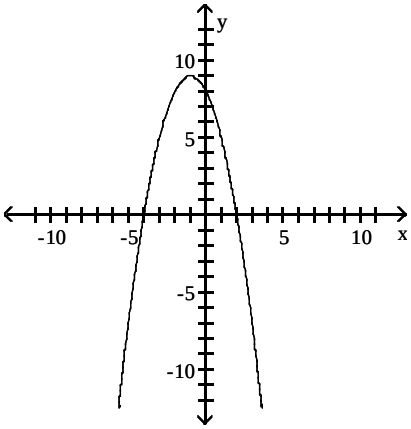
A)



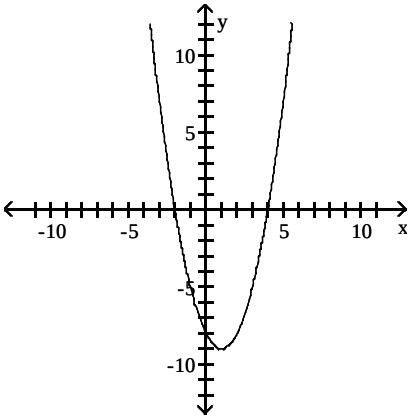
B)



C)



D)



Answer: B
Objective: (3.3) Graph a Quadratic Function Using Transformations

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

24) $f(x) = x^2 + 10x$ 24) _____

A) (–25, 5); $x = -25$
B) (5, –25); $x = 5$
C) (–5, –25); $x = -5$
D) (25, –5); $x = 25$

Answer: C
Objective: (3.3) Identify the Vertex and Axis of Symmetry of a Quadratic Function

25) $f(x) = 5x^2 + 10x + 7$ 25) _____

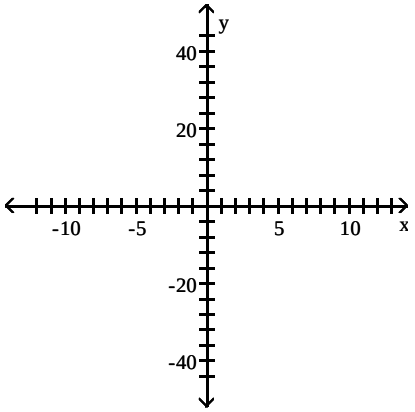
A) (–2, 17) ; x = –2 B) (2, 47) ; x = 2 C) (1, 22) ; x = 1 D) (–1, 2) ; x = –1

Answer: D

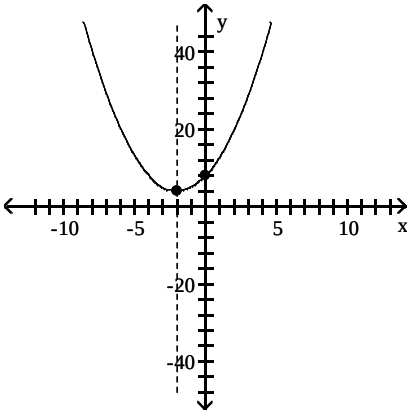
Objective: (3.3) Identify the Vertex and Axis of Symmetry of a Quadratic Function

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

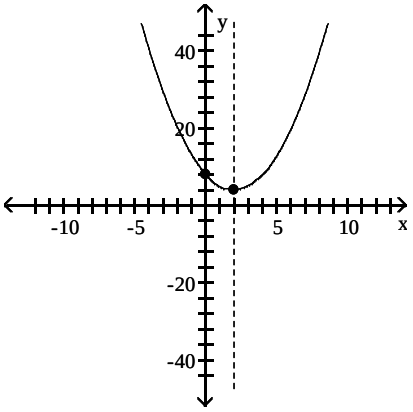
26) $f(x) = x^2 - 4x$ 26) _____



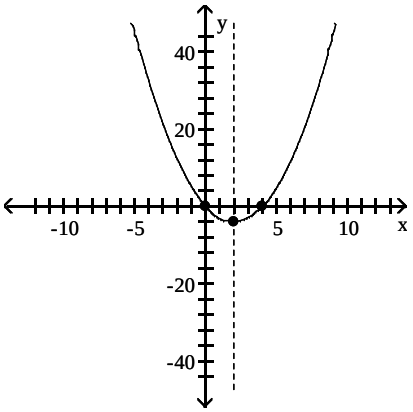
A) vertex (–2, 4)
intercept (0, 8)



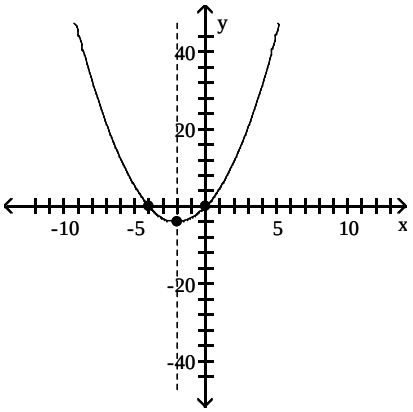
B) vertex (2, 4)
intercept (0, 8)



C) vertex (2, –4)
intercepts (0, 0), (4, 0)



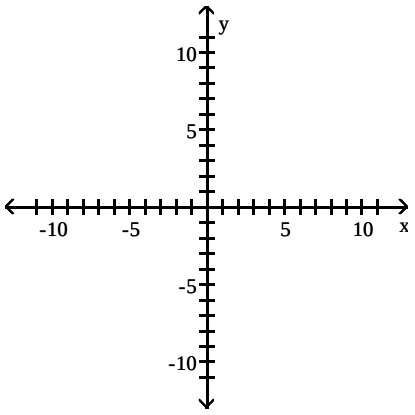
D) vertex (–2, –4)
intercepts (0, 0), (–4, 0)



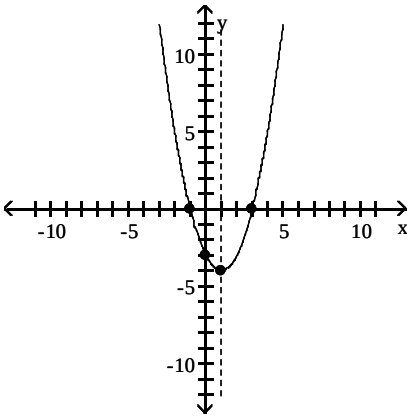
Answer: C

Objective: (3.3) Graph a Quadratic Function Using Its Vertex, Axis, and Intercepts

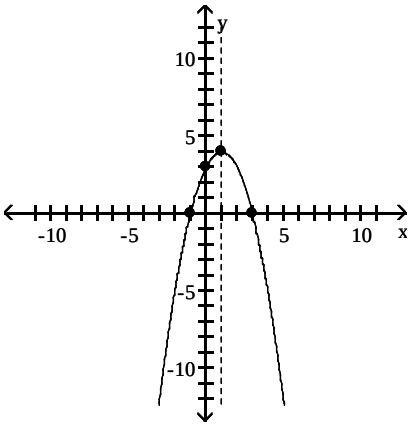
27) $f(x) = x^2 + 2x - 3$ 27) _____



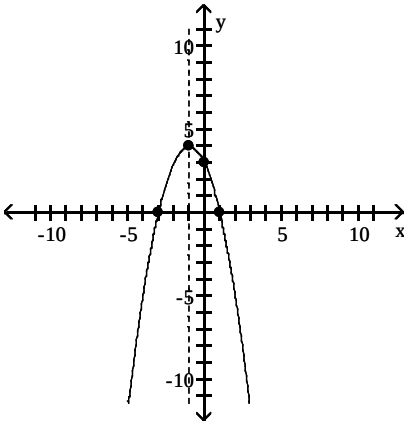
A) vertex (1, –4)
intercepts (–1, 0), (3, 0), (0, –3)



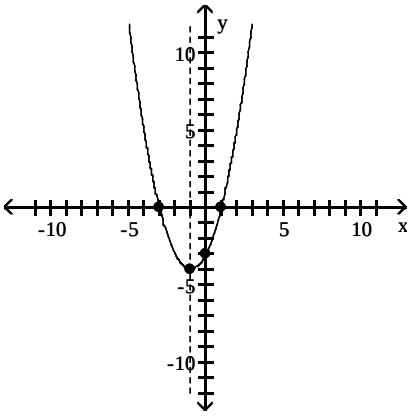
B) vertex (1, 4)
intercepts (–1, 0), (3, 0), (0, 3)



C) vertex (–1, 4)
intercepts (1, 0), (– 3, 0), (0, 3)



D) vertex (–1, –4)
intercepts (1, 0), (– 3, 0), (0, –3)



Answer: D
Objective: (3.3) Graph a Quadratic Function Using Its Vertex, Axis, and Intercepts

Determine, without graphing, whether the given quadratic function has a maximum value or a minimum value and then find that value.

28) $f(x) = x^2 - 2x + 1$ 28) _____

A) minimum; 0 B) maximum; 1 C) minimum; 1 D) maximum; 0

Answer: A
Objective: (3.3) Find the Maximum or Minimum Value of a Quadratic Function

29) $f(x) = -x^2 - 2x + 1$ 29) _____

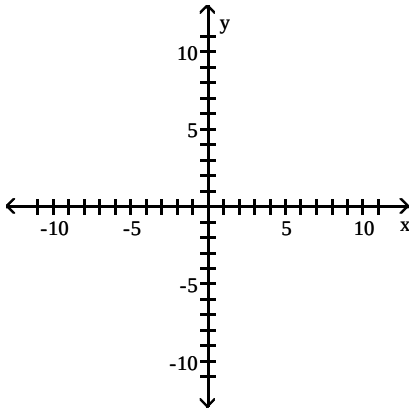
A) minimum; 2 B) minimum; – 1 C) maximum; 2 D) maximum; – 1

Answer: C

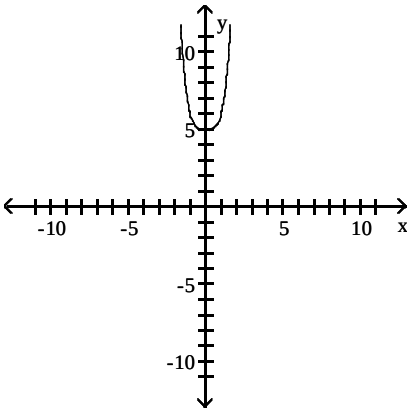
Objective: (3.3) Find the Maximum or Minimum Value of a Quadratic Function

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

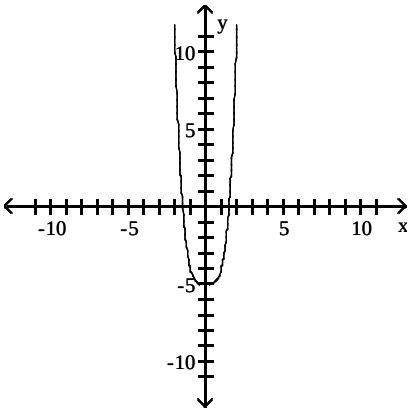
30) $f(x) = (x - 5)^4$ 30) _____



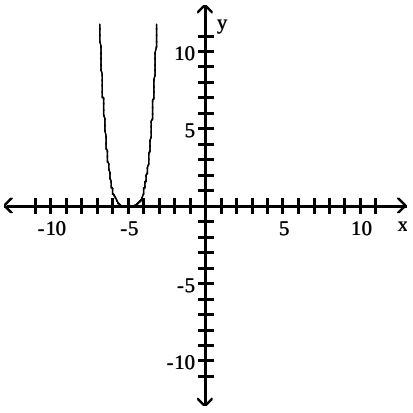
A)



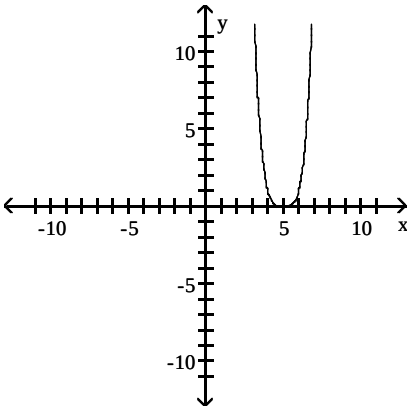
B)



C)



D)



Answer: D

Objective: (4.1) Graph Polynomial Functions Using Transformations

Form a polynomial whose zeros and degree are given. Use a leading coefficient of 1.

31) Zeros: –3, –1, 2; degree 3 31) _____

A) $f(x) = x^3 - 2x^2 - 5x + 6$ B) $f(x) = x^3 + 2x^2 + 5x + 6$

C) $f(x) = x^3 - 2x^2 + 5x - 6$ D) $f(x) = x^3 + 2x^2 - 5x - 6$

Answer: D

Objective: (4.1) Identify the Real Zeros of a Polynomial Function and Their Multiplicity

Find the x– and y–intercepts of f.

32) $f(x) = (x + 8)^2$ 32) _____

A) x–intercept: –8; y–intercept: 64 B) x–intercept: 8; y–intercept: 0

C) x–intercept: –8; y–intercept: 0 D) x–intercept: 8; y–intercept: 64

Answer: A

Objective: (4.1) Analyze the Graph of a Polynomial Function

Find the domain of the rational function.

33) $h(x) = \dfrac{9x}{x - 3}$ 33) _____

A) $\{x \mid x \neq 3\}$ B) $\{x \mid x \neq -3\}$

C) all real numbers D) $\{x \mid x \neq 0\}$

Answer: A

Objective: (4.2) Find the Domain of a Rational Function

34) $g(x) = \dfrac{x + 6}{x^2 - 4}$ 34) _____

A) all real numbers B) $\{x \mid x \neq -2, x \neq 2, x \neq -6\}$

C) $\{x \mid x \neq 0, x \neq 4\}$ D) $\{x \mid x \neq -2, x \neq 2\}$

Answer: D

Objective: (4.2) Find the Domain of a Rational Function

35) $R(x) = \dfrac{-3x^2}{x^2 + 5x - 36}$ 35) _____

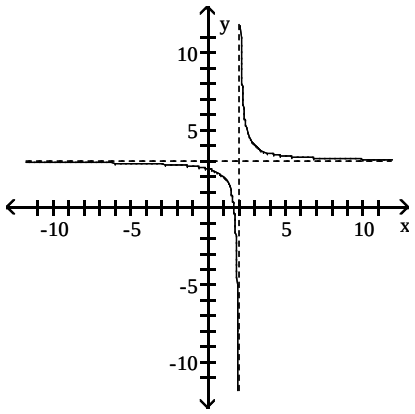
A) $\{x \mid x \neq 9, -4\}$ B) $\{x \mid x \neq 9, 4\}$ C) $\{x \mid x \neq -9, 4\}$ D) $\{x \mid x \neq -36, 1\}$

Answer: C

Objective: (4.2) Find the Domain of a Rational Function

Use the graph to determine the domain and range of the function.

36) 36) _____



A) domain: $\{x \mid x \neq 3\}$
range: $\{y \mid y \neq -2\}$

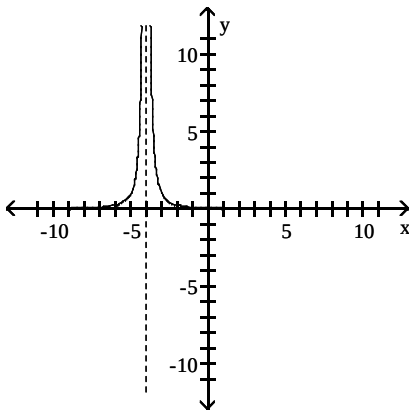
B) domain: $\{x \mid x \neq -2\}$
range: $\{y \mid y \neq 3\}$

C) domain: $\{x \mid x \neq 2\}$
range: $\{y \mid y \neq 3\}$

D) domain: $\{x \mid x \neq 3\}$
range: $\{y \mid y \neq 2\}$

Answer: C
Objective: (4.2) Find the Domain of a Rational Function

37) 37) _____



A) domain: $\{x \mid x > 0\}$
range: $\{y \mid y \neq -4\}$

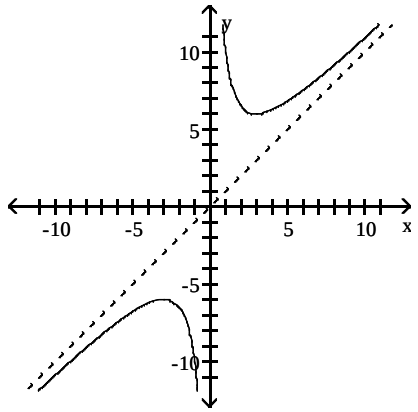
B) domain: $\{x \mid x \neq -4\}$
range: $\{y \mid y > 0\}$

C) domain: $\{x \mid x \geq 0\}$
range: $\{y \mid y \neq -4\}$

D) domain: $\{x \mid x \neq -4\}$
range: $\{y \mid y \geq 0\}$

Answer: B
Objective: (4.2) Find the Domain of a Rational Function

38) 38) _____



A) domain: all real numbers
range: {y | y ≤ –6 or y ≥ 6}

B) domain: {x | x ≠ 0}
range: all real numbers

C) domain: {x | x ≠ 0}
range: {y | y ≤ –6 or y ≥ 6}

D) domain: {x | x ≤ –6 or x ≥ 6}
range: {y | y ≠ 0}

Answer: C
Objective: (4.2) Find the Domain of a Rational Function

Find the vertical asymptotes of the rational function.

39) $g(x) = \frac{5x}{x + 6}$ 39) _____

A) $x = -6$ B) none C) $x = 5$ D) $x = 6$

Answer: A
Objective: (4.2) Find the Vertical Asymptotes of a Rational Function

40) $f(x) = \frac{9x^2}{(x - 1)(x + 2)}$ 40) _____

A) $x = 1, x = -2$
B) $x = -9$
C) $x = 1, x = -2, x = -9$
D) $x = -1, x = 2$

Answer: A
Objective: (4.2) Find the Vertical Asymptotes of a Rational Function

41) $f(x) = \frac{-2x(x + 2)}{2x^2 - 5x - 7}$ 41) _____

A) $x = -\frac{7}{2}, x = 1$ B) $x = -\frac{2}{7}, x = 1$ C) $x = \frac{7}{2}, x = -1$ D) $x = \frac{2}{7}, x = -1$

Answer: C
Objective: (4.2) Find the Vertical Asymptotes of a Rational Function

Give the equation of the horizontal asymptote, if any, of the function.

42) $h(x) = \frac{6x - 7}{x - 5}$ 42) _____

A) $y = 5$
B) $y = 0$
C) $y = 6$
D) no horizontal asymptotes

Answer: C
Objective: (4.2) Find the Horizontal or Oblique Asymptotes of a Rational Function

43) $g(x) = \dfrac{x^2 + 8x - 3}{x - 3}$ 43) _____

A) $y = 0$ B) $y = 3$
C) $y = 1$ D) no horizontal asymptotes

Answer: D
Objective: (4.2) Find the Horizontal or Oblique Asymptotes of a Rational Function

44) $f(x) = \dfrac{7x^2 + 2}{7x^2 - 2}$ 44) _____

A) $y = 2$ B) $y = 1$
C) $y = 7$ D) no horizontal asymptotes

Answer: B
Objective: (4.2) Find the Horizontal or Oblique Asymptotes of a Rational Function

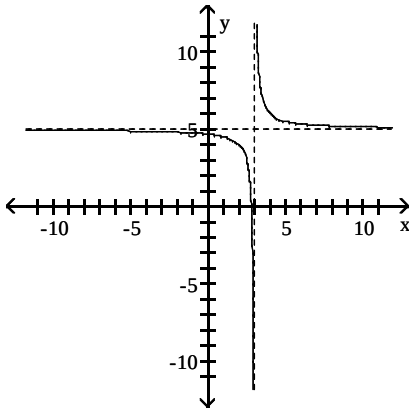
45) $f(x) = \dfrac{-x^2 + 16}{x^2 + 5x + 4}$ 45) _____

A) $y = -16$ B) $y = -1$
C) no horizontal asymptotes D) $y = 0$

Answer: B
Objective: (4.2) Find the Horizontal or Oblique Asymptotes of a Rational Function

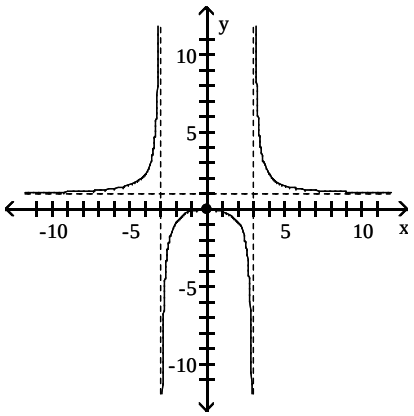
Use the graph to find the horizontal asymptote, if any, of the function.

46) 46) _____



A) $y = 0$ B) $y = 0, y = 5$ C) $x = 3$ D) $y = 5$

Answer: D
Objective: (4.2) Find the Horizontal or Oblique Asymptotes of a Rational Function

47) 

47) _____

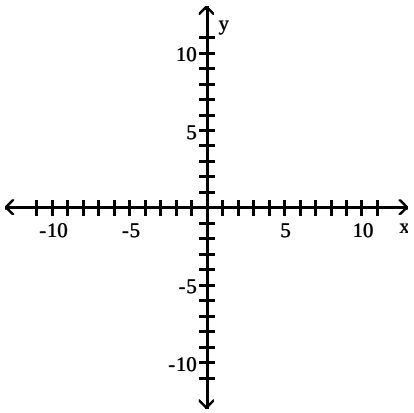
A) y = 0, y = 1
B) y = 1
C) x = –3, x = 3, y = 1
D) y = –3, y = 3

Answer: B
Objective: (4.2) Find the Horizontal or Oblique Asymptotes of a Rational Function

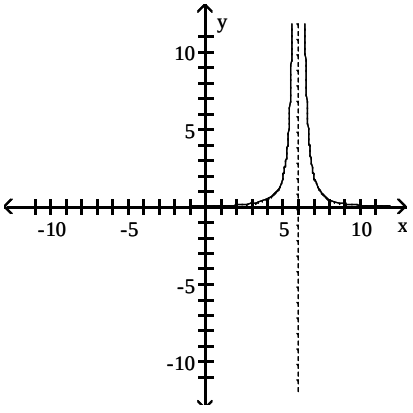
Graph the function using transformations.

48) $f(x) = \frac{2}{(6 + x)^2}$

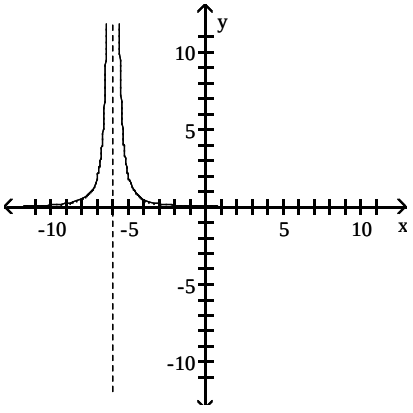
48) _____



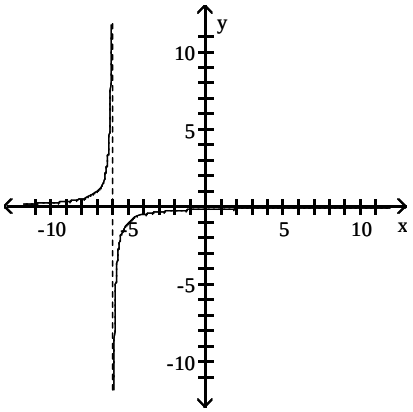
A)



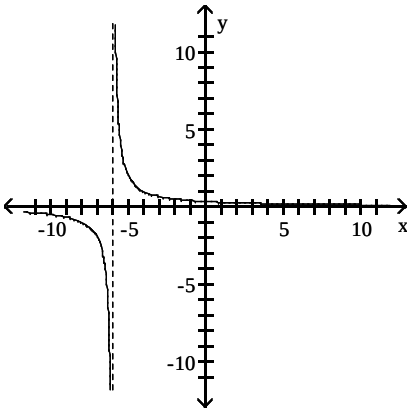
B)



C)



D)



Answer: B
Objective: (4.2) Demonstrate Additional Understanding and Skills

Find the domain of the rational function.

49) $f(x) = \dfrac{4x}{x + 1}$ 49) _____

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

Answer: B
Objective: (4.3) Analyze the Graph of a Rational Function

50) $g(x) = \dfrac{2x^2}{(x + 3)(x + 6)}$ 50) _____

A) $\{x \mid x \neq -3, -6\}$
B) $\{x \mid x \neq -3, -6, -2\}$
C) $\{x \mid x \neq 3, 6\}$
D) all real numbers

Answer: A
Objective: (4.3) Analyze the Graph of a Rational Function

51) $f(x) = \dfrac{x + 9}{x^2 - 64}$ 51) _____

A) $\{x \mid x \neq -8, 8, -9\}$
B) $\{x \mid x \neq -8, 8\}$
C) $\{x \mid x \neq 0, 64\}$
D) all real numbers

Answer: B
Objective: (4.3) Analyze the Graph of a Rational Function

Solve the inequality.

52) $(x + 5)(x - 1) > 0$ 52) _____

A) $(1, \infty)$
B) $(-5, 1)$
C) $(-\infty, -5)$ or $(1, \infty)$
D) $(-\infty, -5)$

Answer: C
Objective: (4.4) Solve Polynomial Inequalities

53) $(x + 1)(x - 3) \le 0$ 53) _____

A) $(-\infty, -1]$ B) $(-\infty, -1]$ or $[3, \infty)$

C) $[3, \infty)$ D) $[-1, 3]$

Answer: D

Objective: (4.4) Solve Polynomial Inequalities

54) $\frac{x - 2}{x + 1} < 0$ 54) _____

A) $(-1, 2)$ B) $(-\infty, -1)$

C) $(2, \infty)$ D) $(-\infty, -1)$ or $(2, \infty)$

Answer: A

Objective: (4.4) Solve Rational Inequalities

55) $\frac{x - 3}{x + 1} > 0$ 55) _____

A) $(-\infty, -1)$ B) $(-\infty, -1)$ or $(3, \infty)$

C) $(-1, 3)$ D) $(3, \infty)$

Answer: B

Objective: (4.4) Solve Rational Inequalities

Use the Remainder Theorem to find the remainder when f(x) is divided by x – c.

56) $f(x) = x^4 + 8x^3 + 12x^2;\ x + 1$ 56) _____

A) R = 5 B) R = –21 C) R = –5 D) R = 21

Answer: A

Objective: (4.5) Use the Remainder and Factor Theorems

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

57) $f(x) = 11x^4 - x^2 + 3$ 57) _____

A) $\pm\frac{1}{11}, \pm\frac{3}{11}, \pm 1, \pm 3, \pm 11$ B) $\pm\frac{1}{11}, \pm\frac{1}{3}, \pm 1, \pm 3, \pm 11$

C) $\pm\frac{1}{3}, \pm\frac{11}{3}, \pm 1, \pm 11$ D) $\pm\frac{1}{11}, \pm\frac{3}{11}, \pm 1, \pm 3$

Answer: D

Objective: (4.5) Use the Rational Zeros Theorem to List the Potential Rational Zeros of a Polynomial Function

58) $f(x) = 6x^4 + 3x^3 - 2x^2 + 2$ 58) _____

A) $\pm\frac{1}{2}, \pm\frac{3}{2}, \pm 1, \pm 2, \pm 3, \pm 6$ B) $\pm\frac{1}{6}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{2}{3}, \pm 1, \pm 2$

C) $\pm\frac{1}{6}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm 1, \pm 2$ D) $\pm\frac{1}{6}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{2}{3}, \pm 1, \pm 2, \pm 3$

Answer: B

Objective: (4.5) Use the Rational Zeros Theorem to List the Potential Rational Zeros of a Polynomial Function

Use the Rational Zeros Theorem to find all the real zeros of the polynomial function. Use the zeros to factor f over the real numbers.

59) $f(x) = x^4 - 9x^2 - 400$ 59) _____

A) $-5, 5;\ f(x) = (x - 5)(x + 5)(x^2 + 16)$

B) $5;\ f(x) = (x - 5)^2(x^2 + 16)$

C) $-4, 4;\ f(x) = (x - 4)(x + 4)(x^2 + 25)$

D) $-5, -4, 5, 4;\ f(x) = (x - 5)(x + 5)(x - 4)(x + 4)$

Answer: A

Objective: (4.5) Find the Real Zeros of a Polynomial Function

60) $f(x) = x^3 + 3x^2 - 4x - 12$ 60) _____

A) $-2, 2, 3;\ f(x) = (x + 2)(x - 2)(x - 3)$

B) $-2;\ f(x) = (x + 2)(x^2 + x - 6)$

C) $-3;\ f(x) = (x + 3)(x^2 - x - 4)$

D) $-3, -2, 2;\ f(x) = (x + 3)(x + 2)(x - 2)$

Answer: D

Objective: (4.5) Find the Real Zeros of a Polynomial Function

61) $f(x) = 4x^3 - 11x^2 - 6x + 9$ 61) _____

A) $-1, \frac{4}{3}, -3;\ f(x) = (4x - 3)(x - 3)(x + 1)$

B) $1, \frac{4}{3}, -3;\ f(x) = (4x - 3)(x - 1)(x + 3)$

C) $-1, \frac{3}{4}, 3;\ f(x) = (4x - 3)(x - 3)(x + 1)$

D) $-3, \frac{3}{4}, 1;\ f(x) = (4x - 3)(x - 1)(x + 3)$

Answer: C

Objective: (4.5) Find the Real Zeros of a Polynomial Function

Solve the equation in the real number system.

62) $x^3 + 7x^2 + 14x + 8 = 0$ 62) _____

A) {1, 2, 4} B) {−4, −2, −1} C) {2, 4} D) {−4, −2}

Answer: B

Objective: (4.5) Solve Polynomial Equations

63) $x^3 + 4x^2 - 10x + 12 = 0$ 63) _____

A) {6} B) {−6} C) {−6, 6} D) {1}

Answer: B

Objective: (4.5) Solve Polynomial Equations

64) $3x^3 - 17x^2 + 18x + 8 = 0$ 64) _____

A) $\left\{-\frac{4}{3}, -1, -2\right\}$ B) $\left\{-\frac{1}{3}, 2, 4\right\}$ C) $\left\{\frac{4}{3}, -1, 2\right\}$ D) $\left\{\frac{1}{3}, 2, -4\right\}$

Answer: B

Objective: (4.5) Solve Polynomial Equations

Information is given about a polynomial f(x) whose coefficients are real numbers. Find the remaining zeros of f.

65) Degree 3; zeros: $3, 5 - i$ 65) _____

A) $-5 + i$ B) -3 C) $5 + i$ D) no other zeros

Answer: C

Objective: (4.6) Use the Conjugate Pairs Theorem

66) Degree 4; zeros: i, 2 + i 66) _____

A) –2 + i, 2 – i B) –i, –2 + i C) 2 – i D) –i, 2 – i

Answer: D

Objective: (4.6) Use the Conjugate Pairs Theorem

Form a polynomial f(x) with real coefficients having the given degree and zeros.

67) Degree 3: zeros: 1 + i and –8 67) _____

A) $f(x) = x^3 + x^2 - 14x + 16$ B) $f(x) = x^3 - 8x^2 - 14x - 12$

C) $f(x) = x^3 + 6x^2 - 14x + 16$ D) $f(x) = x^3 + 6x^2 + 16x - 14$

Answer: C

Objective: (4.6) Find a Polynomial Function with Specified Zeros

68) Degree: 3; zeros: –4 and 3 – 2i 68) _____

A) $f(x) = x^3 - 2x^2 + 5x - 52$ B) $f(x) = x^3 - x^2 + 11x + 52$

C) $f(x) = x^3 - 2x^2 - 11x + 52$ D) $f(x) = x^3 - x^2 - 11x + 52$

Answer: C

Objective: (4.6) Find a Polynomial Function with Specified Zeros

Use the given zero to find the remaining zeros of the function.

69) $f(x) = x^4 - 32x^2 - 144$; zero: –2i 69) _____

A) 2i, 6, –6 B) 2i, 12, –12 C) 2i, 6i, –6i D) 2i, 12i, –12i

Answer: A

Objective: (4.6) Find the Complex Zeros of a Polynomial Function

70) $f(x) = x^3 + 4x^2 - 10x + 12$; zero: 1 + i 70) _____

A) 1 – i, 6i B) 1 – i, –6 C) –6, 6 D) 1 – i, 6

Answer: B

Objective: (4.6) Find the Complex Zeros of a Polynomial Function

Find all zeros of the function and write the polynomial as a product of linear factors.

71) $f(x) = x^3 - x^2 + 25x - 25$ 71) _____

A) $f(x) = (x - 1)(x + 1)(x + 25)$ B) $f(x) = (x - 1)(x + 5i)(x - 5i)$

C) $f(x) = (x - 25)(x + i)(x - i)$ D) $f(x) = (x - 1)(x + 5)(x - 5)$

Answer: B

Objective: (4.6) Find the Complex Zeros of a Polynomial Function

72) $f(x) = x^3 + 9x^2 + 32x + 42$ 72) _____

A) $f(x) = (x + 3)(x + 3 + i\sqrt{5})(x - 3 - i\sqrt{5})$ B) $f(x) = (x - 3)(x + 5 + 3i)(x - 5 - 3i)$

C) $f(x) = (x - 3)(x + 5 + 3i)(x + 5 - 3i)$ D) $f(x) = (x + 3)(x + 3 + i\sqrt{5})(x + 3 - i\sqrt{5})$

Answer: D

Objective: (4.6) Find the Complex Zeros of a Polynomial Function

Evaluate the expression using the values given in the table.

73) $(f \circ g)(3)$ 73) _____

x	1	5	11	12
f(x)	−1	11	3	14

x	−5	−1	1	3
g(x)	1	−7	5	11

A) 3 B) 11 C) Undefined D) 5

Answer: A
Objective: (5.1) Form a Composite Function

For the given functions f and g, find the requested composite function value.

74) $f(x) = \sqrt{x + 3}$, $g(x) = 3x$; Find $(f \circ g)(2)$. 74) _____

A) $3\sqrt{5}$ B) $3\sqrt{15}$ C) 3 D) $\sqrt{15}$

Answer: C
Objective: (5.1) Form a Composite Function

75) $f(x) = 2x + 6$, $g(x) = 4x^2 + 1$; Find $(g \circ f)(1)$. 75) _____

A) 257 B) 16 C) 101 D) 22

Answer: A
Objective: (5.1) Form a Composite Function

For the given functions f and g, find the requested composite function.

76) $f(x) = 6x + 10$, $g(x) = 2x - 1$; Find $(f \circ g)(x)$. 76) _____

A) $12x + 4$ B) $12x + 19$ C) $12x + 9$ D) $12x + 16$

Answer: A
Objective: (5.1) Form a Composite Function

77) $f(x) = -4x + 5$, $g(x) = 6x + 3$; Find $(g \circ f)(x)$. 77) _____

A) $24x + 33$ B) $-24x + 33$ C) $-24x + 17$ D) $-24x - 27$

Answer: B
Objective: (5.1) Form a Composite Function

78) $f(x) = \frac{x - 2}{3}$, $g(x) = 3x + 2$; Find $(g \circ f)(x)$. 78) _____

A) $3x + 4$ B) x C) $x + 4$ D) $x - \frac{2}{3}$

Answer: B
Objective: (5.1) Form a Composite Function

79) $f(x) = 4x^2 + 4x + 6$, $g(x) = 4x - 3$; Find $(g \circ f)(x)$. 79) _____

A) $4x^2 + 16x + 21$ B) $16x^2 + 16x + 27$ C) $4x^2 + 4x + 3$ D) $16x^2 + 16x + 21$

Answer: D
Objective: (5.1) Form a Composite Function

Find the domain of the composite function f ∘ g.

80) $f(x) = 3x + 24$; $g(x) = x + 6$ 80) _____

A) $\{x \mid x \neq 14\}$ B) $\{x \mid x \neq -14\}$

C) $\{x \mid x$ is any real number$\}$ D) $\{x \mid x \neq -6, x \neq -8\}$

Answer: C

Objective: (5.1) Find the Domain of a Composite Function

81) $f(x) = \frac{7}{x + 7}$; $g(x) = x + 10$ 81) _____

A) $\{x \mid x \neq -7, x \neq -10\}$ B) $\{x \mid x \neq -7\}$

C) $\{x \mid x$ is any real number$\}$ D) $\{x \mid x \neq -17\}$

Answer: D

Objective: (5.1) Find the Domain of a Composite Function

82) $f(x) = x + 4$; $g(x) = \frac{2}{x + 8}$ 82) _____

A) $\{x \mid x \neq -8, x \neq -4\}$ B) $\{x \mid x \neq -8\}$

C) $\{x \mid x \neq -12\}$ D) $\{x \mid x$ is any real number$\}$

Answer: B

Objective: (5.1) Find the Domain of a Composite Function

83) $f(x) = \frac{x}{x + 1}$; $g(x) = \frac{2}{x + 3}$ 83) _____

A) $\{x \mid x$ is any real number$\}$ B) $\{x \mid x \neq -3, x \neq -1\}$

C) $\{x \mid x \neq 0, x \neq -3, x \neq -5\}$ D) $\{x \mid x \neq -3, x \neq -5\}$

Answer: D

Objective: (5.1) Find the Domain of a Composite Function

84) $f(x) = \sqrt{x}$; $g(x) = 2x + 10$ 84) _____

A) $\{x \mid x$ is any real number$\}$ B) $\{x \mid x \leq -5$ or $x \geq 0\}$

C) $\{x \mid x \geq 0\}$ D) $\{x \mid x \geq -5\}$

Answer: D

Objective: (5.1) Find the Domain of a Composite Function

85) $f(x) = \sqrt{x - 3}$; $g(x) = \frac{3}{x - 9}$ 85) _____

A) $\{x \mid 9 < x \leq 10\}$ B) $\{x \mid x$ is any real number$\}$

C) $\{x \mid x \neq 9, x \neq 3\}$ D) $\{x \mid x \geq 3, x \neq 9\}$

Answer: A

Objective: (5.1) Find the Domain of a Composite Function

Indicate whether the function is one–to–one.

86) $\{(-8, 12), (-2, 3), (-10, 5)\}$ 86) _____

A) Yes B) No

Answer: A

Objective: (5.2) Determine Whether a Function Is One–to–One

87) {(–4, 7), (12, 7), (–5, 16)} 87) _____

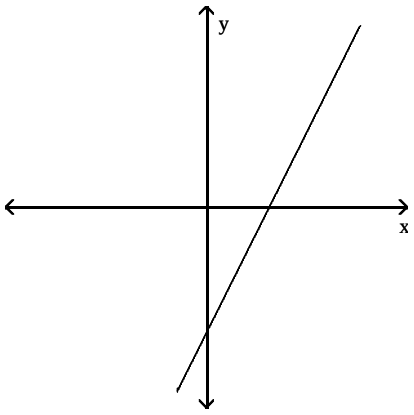
A) Yes B) No

Answer: B

Objective: (5.2) Determine Whether a Function Is One–to–One

Use the horizontal line test to determine whether the function is one –to–one.

88) 88) _____

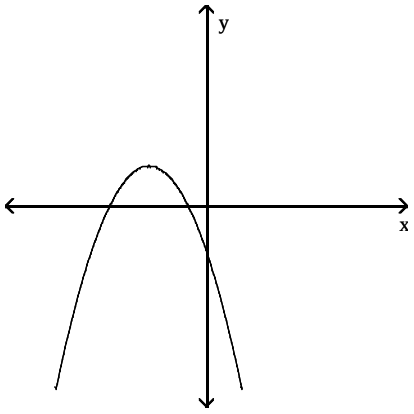


A) Yes B) No

Answer: A

Objective: (5.2) Determine Whether a Function Is One–to–One

89) 89) _____



A) Yes B) No

Answer: B

Objective: (5.2) Determine Whether a Function Is One–to–One

Solve the equation.

90) $3^{1 + 2x} = 27$ 90) _____

A) {3} B) {–1} C) {9} D) {1}

Answer: D

Objective: (5.3) Solve Exponential Equations

91) $4^{-x} = \frac{1}{16}$ 91) _____

A) {–2} B) {2} C) $\left\{\frac{1}{4}\right\}$ D) $\left\{\frac{1}{2}\right\}$

Answer: B
Objective: (5.3) Solve Exponential Equations

92) $2^{7} - 3x = \frac{1}{4}$ 92) _____

A) $\left\{\frac{1}{2}\right\}$ B) {3} C) {–3} D) {1}

Answer: B
Objective: (5.3) Solve Exponential Equations

93) $2^{(3x - 5)} = 16$ 93) _____

A) {–3} B) {8} C) {3} D) $\left\{\frac{1}{8}\right\}$

Answer: C
Objective: (5.3) Solve Exponential Equations

Solve the problem.

94) The rabbit population in a forest area grows at the rate of 4% monthly. If there are 260 rabbits in July, find how many rabbits (rounded to the nearest whole number) should be expected by next July. Use $y = 260(2.7)^{0.04t}$ 94) _____

A) 337 B) 406 C) 419 D) 432

Answer: C
Objective: (5.3) Solve Exponential Equations

95) Three bacteria are placed in a petri dish. The population will double every day. The formula for the number of bacteria in the dish on day t is 95) _____

$$N(t) = 3(2)^{t}$$

where t is the number of days after the three bacteria are placed in the dish. How many bacteria are in the dish six days after the three bacteria are placed in the dish?

A) 192 B) 108 C) 36 D) 11

Answer: A
Objective: (5.3) Solve Exponential Equations

96) The bacteria in a 8–liter container double every 2 minutes. After 55 minutes the container is full. How long did it take to fill a quarter of the container? 96) _____

A) 27.5 min B) 13.8 min C) 51 min D) 41.3 min

Answer: C
Objective: (5.3) Solve Exponential Equations

97) A city is growing at the rate of 0.5% annually. If there were 2,806,000 residents in the city in 1995, find how many (to the nearest ten-thousand) were living in that city in 2000. Use $y = 2{,}806{,}000(2.7)^{0.005t}$ 97) _____

A) 190,000 B) 2,910,000 C) 7,580,000 D) 2,880,000

Answer: D
Objective: (5.3) Solve Exponential Equations

Change the exponential expression to an equivalent expression involving a logarithm.

98) $7^3 = 343$ 98) _____

A) $\log_7 343 = 3$ B) $\log_7 3 = 343$ C) $\log_3 343 = 7$ D) $\log_{343} 7 = 3$

Answer: A
Objective: (5.4) Change Exponential Statements to Logarithmic Statements & Logarithmic Statements to Exponential Statements

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

99) $\log_2 x = 3$ 99) _____

A) $x^3 = 2$ B) $2^3 = x$ C) $3^2 = x$ D) $2^x = 3$

Answer: B
Objective: (5.4) Change Exponential Statements to Logarithmic Statements & Logarithmic Statements to Exponential Statements

Find the exact value of the logarithmic expression.

100) $\log_4 \frac{1}{64}$ 100) _____

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

Answer: A
Objective: (5.4) Evaluate Logarithmic Expressions

Use a calculator to evaluate the expression. Round your answer to three decimal places

101) $\log \frac{6}{7}$ 101) _____

A) -14.937 B) 0.067 C) -0.154 D) -0.067

Answer: D
Objective: (5.4) Evaluate Logarithmic Expressions

Solve the problem.

102) The function $f(x) = 1 + 1.4 \ln (x+1)$ models the average number of free-throws a basketball player can make consecutively during practice as a function of time, where x is the number of consecutive days the basketball player has practiced for two hours. After 72 days of practice, what is the average number of consecutive free throws the basketball player makes? 102) _____

A) 11 consecutive free throws B) 7 consecutive free throws
C) 10 consecutive free throws D) 8 consecutive free throws

Answer: B
Objective: (5.4) Evaluate Logarithmic Expressions

Find the domain of the function.

103) $f(x) = \log(x + 9)$ 103) _____

A) $(-9, \infty)$ B) $(0, \infty)$ C) $(9, \infty)$ D) $(1, \infty)$

Answer: A

Objective: (5.4) Determine the Domain of a Logarithmic Function

104) $f(x) = \ln(-3 - x)$ 104) _____

A) $(-3, \infty)$ B) $(3, \infty)$ C) $(-\infty, 3)$ D) $(-\infty, -3)$

Answer: D

Objective: (5.4) Determine the Domain of a Logarithmic Function

Solve the equation.

105) $\log_5 x = 2$ 105) _____

A) {7} B) {32} C) {25} D) {10}

Answer: C

Objective: (5.4) Solve Logarithmic Equations

106) $\log_2 (x + 1) = 3$ 106) _____

A) {9} B) {7} C) {10} D) {8}

Answer: B

Objective: (5.4) Solve Logarithmic Equations

107) $9 \ln 5x = 36$ 107) _____

A) $\left\{e^{4/5}\right\}$ B) $\left\{\frac{e^4}{5}\right\}$ C) $\{e^4\}$ D) $\left\{\frac{4}{\ln 5}\right\}$

Answer: B

Objective: (5.4) Solve Logarithmic Equations

Solve the problem.

108) The formula $D = 6e^{-0.04h}$ can be used to find the number of milligrams D of a certain drug in a patient's bloodstream h hours after the drug has been given. When the number of milligrams reaches 2, the drug is to be given again. What is the time between injections? 108) _____

A) 17.33 hr B) 27.47 hr C) 44.79 hr D) 29.25 hr

Answer: B

Objective: (5.4) Solve Logarithmic Equations

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

109) $\log_6 6^{-9}$ 109) _____

A) 6 B) −54 C) 1 D) −9

Answer: D

Objective: (5.5) Work with the Properties of Logarithms

Write as the sum and/or difference of logarithms. Express powers as factors.

110) $\log_5 \frac{14\sqrt{x}}{y}$ 110) _____

A) $\log_5 14 \cdot \frac{1}{2} \log_5 m \div \log_5 y$

B) $\log_5 (14\sqrt{x}) - \log_5 y$

C) $\log_5 y - \log_5 14 - \frac{1}{2} \log_5 x$

D) $\log_5 14 + \frac{1}{2} \log_5 x - \log_5 y$

Answer: D
Objective: (5.5) Write a Logarithmic Expression as a Sum or Difference of Logarithms

111) $\log_4 \left(\frac{x+6}{x^3}\right)$ 111) _____

A) $3 \log_4 x - \log_4 (x+6)$

B) $\log_4 (x+6) - \log_4 x$

C) $\log_4 (x+6) - 3 \log_4 x$

D) $\log_4 (x+6) + 3 \log_4 x$

Answer: C
Objective: (5.5) Write a Logarithmic Expression as a Sum or Difference of Logarithms

112) $\ln \frac{(8x)\sqrt[7]{1+3x}}{(x-6)^5}, \quad x > 6$ 112) _____

A) $8\ln x + \frac{3}{7}\ln (1+3x) - 5\ln (x-6)$

B) $\ln 8 + \ln x + \frac{1}{7}\ln (1+3x) - \ln 5 - \ln (x-6)$

C) $\ln 8 + \ln x + \frac{1}{7}\ln (1+3x) - 5\ln (x-6)$

D) $\ln 8 + \ln x - 7\ln (1+3x) - 5\ln (x-6)$

Answer: C
Objective: (5.5) Write a Logarithmic Expression as a Sum or Difference of Logarithms

Express as a single logarithm.

113) $6 \log_b q - \log_b r$ 113) _____

A) $\log_b \frac{q^6}{r}$

B) $\log_b (q^6 - r)$

C) $\log_b q^6 \div \log_b r$

D) $\log_b \frac{6q}{r}$

Answer: A
Objective: (5.5) Write a Logarithmic Expression as a Single Logarithm

114) $6 \log_a m - \frac{3}{5} \log_a n + \frac{1}{4} \log_a j - 5 \log_a k$ 114) _____

A) $\log_a \frac{m^6 \, n^{3/5}}{j^{1/4} \, k^5}$

B) $\log_a \frac{m^6 \, j^{1/4}}{n^{3/5} \, k^5}$

C) $\log_a \frac{m^6 k^5}{j^{1/4} \, n^{3/5}}$

D) $\log_a \left(6m - \frac{3}{5}n + \frac{1}{4}j - 5k\right)$

Answer: B
Objective: (5.5) Write a Logarithmic Expression as a Single Logarithm

Solve the equation.

115) $\log_2 x = 5$ 115) _____

A) {25} B) {32} C) {2.32} D) {10}

Answer: B

Objective: (5.6) Solve Logarithmic Equations

116) $\log (x + 4) = \log (4x - 2)$ 116) _____

A) $\left\{\frac{6}{5}\right\}$ B) $\left\{\frac{2}{3}\right\}$ C) $\{-2\}$ D) $\{2\}$

Answer: D

Objective: (5.6) Solve Logarithmic Equations

117) $\log_3 x + \log_3(x - 24) = 4$ 117) _____

A) {–3, 27} B) {27} C) {53} D) ∅

Answer: B

Objective: (5.6) Solve Logarithmic Equations

118) $\log_3 (x - 5) + \log_3 (x - 11) = 3$ 118) _____

A) {14} B) {15} C) {2} D) {14, 2}

Answer: A

Objective: (5.6) Solve Logarithmic Equations

119) $2^x = 16$ 119) _____

A) {4} B) {3} C) {5} D) {8}

Answer: A

Objective: (5.6) Solve Exponential Equations

120) $3^{(1 + 2x)} = 243$ 120) _____

A) {6} B) {2} C) {81} D) {–2}

Answer: B

Objective: (5.6) Solve Exponential Equations

121) $4^{(7 + 3x)} = \frac{1}{16}$ 121) _____

A) {–3} B) {4} C) $\left\{\frac{1}{4}\right\}$ D) {3}

Answer: A

Objective: (5.6) Solve Exponential Equations

122) $3 \cdot 5^{2t - 1} = 75$ 122) _____

A) $\left\{\frac{1}{2}\right\}$ B) $\left\{\frac{3}{2}\right\}$ C) {3} D) $\left\{\frac{13}{10}\right\}$

Answer: B

Objective: (5.6) Solve Exponential Equations

Solve the problem. Round your answer to three decimals.

123) How long will it take for an investment to double in value if it earns 7.75% compounded continuously? 123) _____

A) 9.356 years B) 8.944 years C) 14.176 years D) 4.472 years

Answer: B

Objective: (5.7) Determine the Rate of Interest or Time Required to Double a Lump Sum of Money

124) How long will it take for an investment to triple in value if it earns 10.5% compounded continuously? 124) _____

A) 10.463 years B) 6.601 years C) 5.231 years D) 11.03 years

Answer: A

Objective: (5.7) Determine the Rate of Interest or Time Required to Double a Lump Sum of Money

Solve the problem.

125) The size P of a small herbivore population at time t (in years) obeys the function $P(t) = 900e^{0.23t}$ if they have enough food and the predator population stays constant. After how many years will the population reach 1800? 125) _____

A) 29.58 yrs B) 3.01 yrs C) 7.36 yrs D) 9.55 yrs

Answer: B

Objective: (5.8) Find Equations of Populations That Obey the Law of Uninhibited Growth

126) The half–life of silicon–32 is 710 years. If 70 grams is present now, how much will be present in 400 years? (Round your answer to three decimal places.) 126) _____

A) 1.41 B) 67.319 C) 0 D) 47.37

Answer: D

Objective: (5.8) Find Equations of Populations That Obey the Law of Decay

127) A fossilized leaf contains 6% of its normal amount of carbon 14. How old is the fossil (to the nearest year)? Use 5600 years as the half–life of carbon 14. 127) _____

A) 499 B) 14,450 C) 22,689 D) 36,639

Answer: C

Objective: (5.8) Find Equations of Populations That Obey the Law of Decay

128) Sandy manages a ceramics shop and uses a 650°F kiln to fire ceramic greenware. After turning off her kiln, she must wait until its temperature gauge reaches 160°F before opening it and removing the ceramic pieces. If room temperature is 80°F and the gauge reads 500°F in 11 minutes, how long must she wait before opening the kiln? Assume the kiln cools according to Newton's Law of Cooling: 128) _____

$U = T + (U_O - T)e^{kt}$.

(Round your answer to the nearest whole minute.)

A) 107 minutes B) 165 minutes C) 53 minutes D) 71 minutes

Answer: D

Objective: (5.8) Use Newton's Law of Cooling

129) A thermometer reading 77°F is placed inside a cold storage room with a constant temperature of 37°F. If the thermometer reads 68°F in 10 minutes, how long before it reaches 53°F? Assume the cooling follows Newton's Law of Cooling: 129) _____

$U = T + (U_O - T)e^{kt}$.

(Round your answer to the nearest whole minute.)

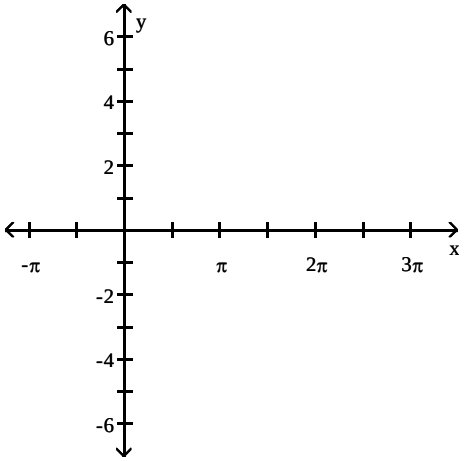
A) 5 minutes B) 36 minutes C) –17 minutes D) 17 minutes

Answer: B

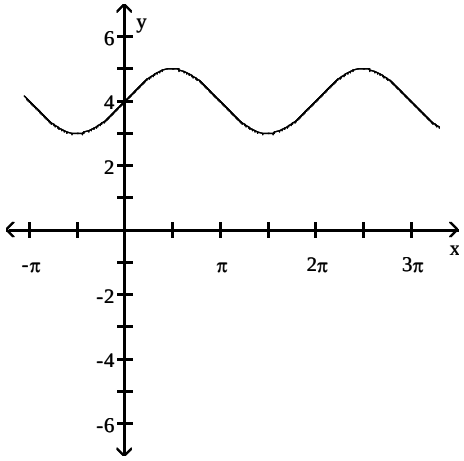
Objective: (5.8) Use Newton's Law of Cooling

Use transformations to graph the function.

130) $y = 4 \sin x$ 130) _____



A)



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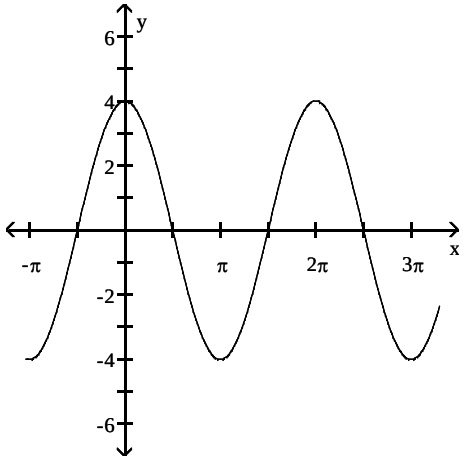

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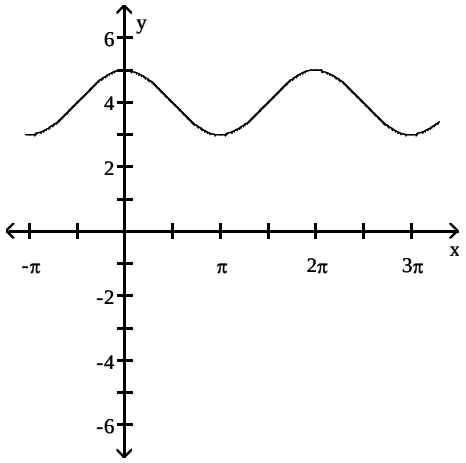
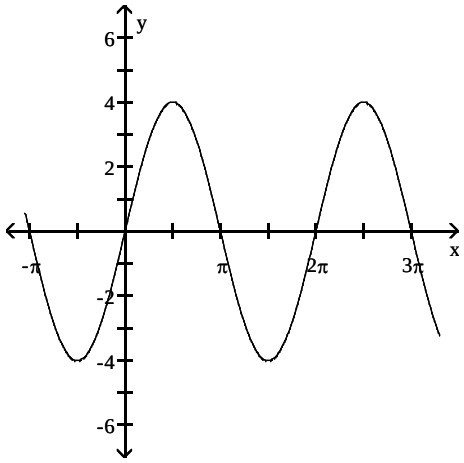


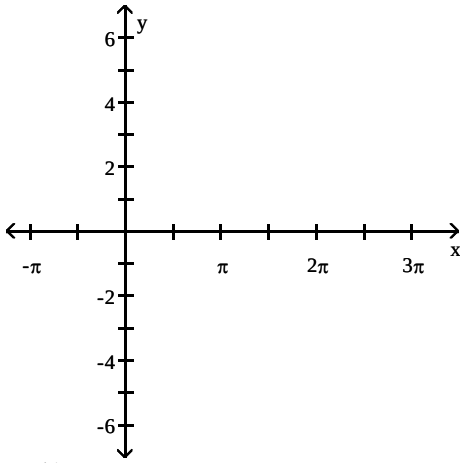
D)



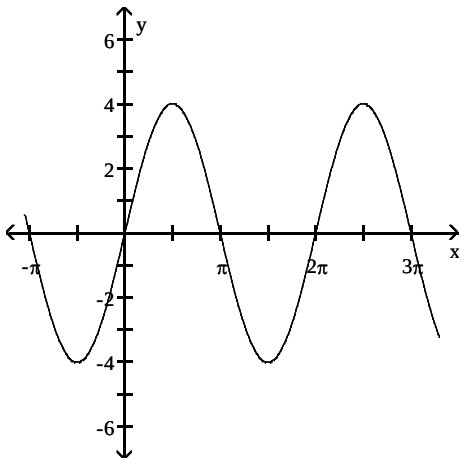
Answer: D

Objective: (6.4) Graph Functions of the Form y = A sin(ωx) Using Transformations

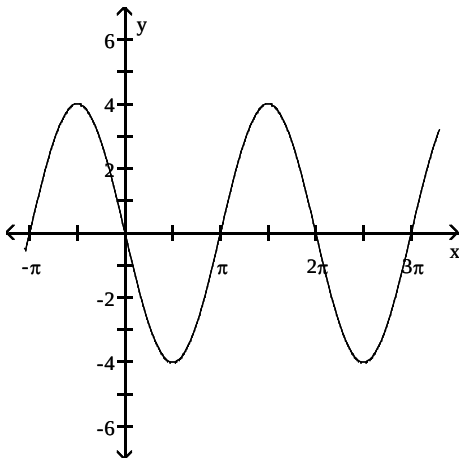
131) $y = 4 \sin(\pi - x)$ 131) _____



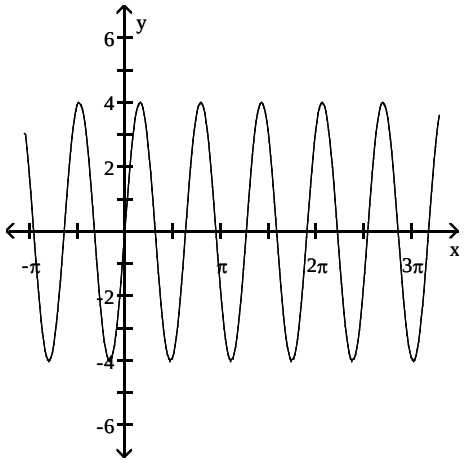
A)



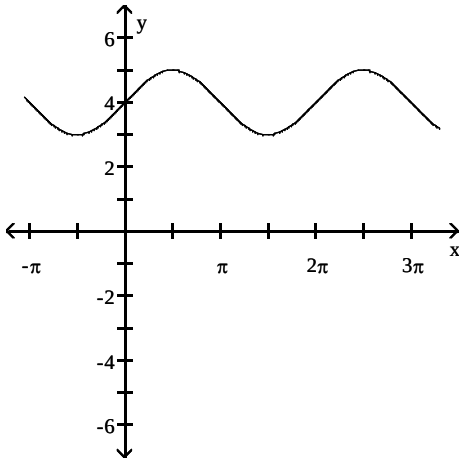
B)



C)



D)

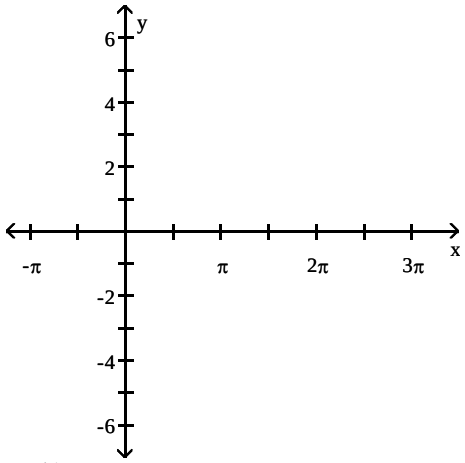


Answer: A

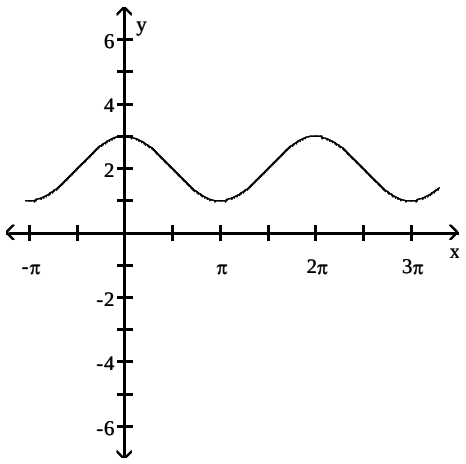
Objective: (6.4) Graph Functions of the Form y = A sin(ωx) Using Transformations

132) y = 2 cos x

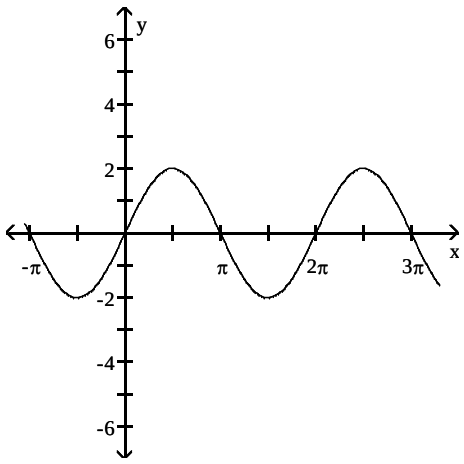
132) _____



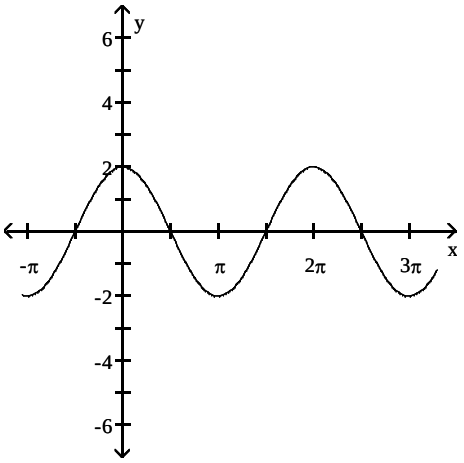
A)



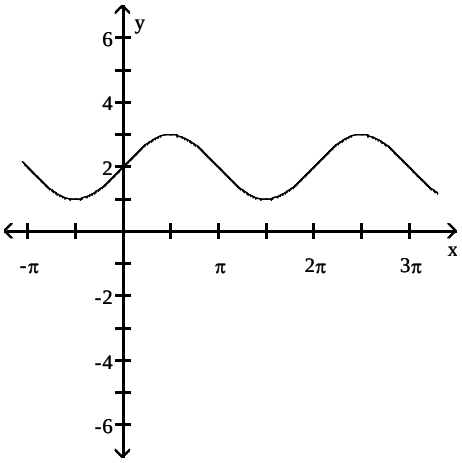
B)



C)



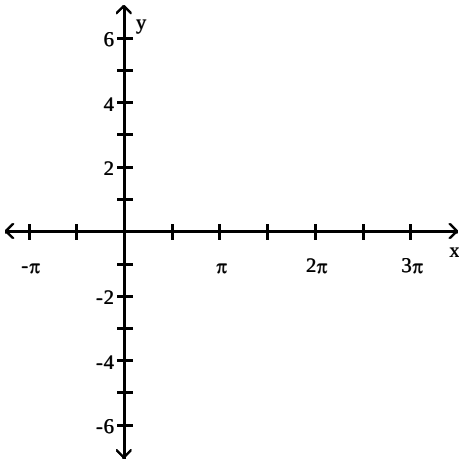
D)



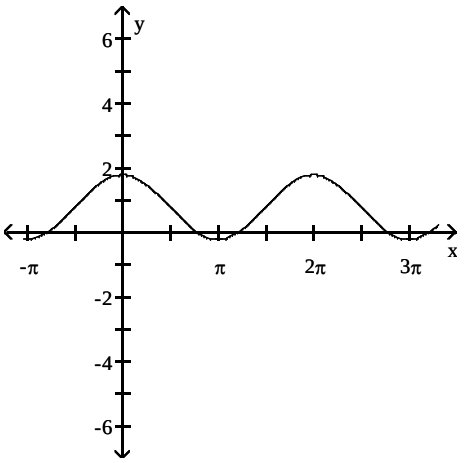
Answer: C

Objective: (6.4) Graph Functions of the Form y = A cos(ωx) Using Transformations

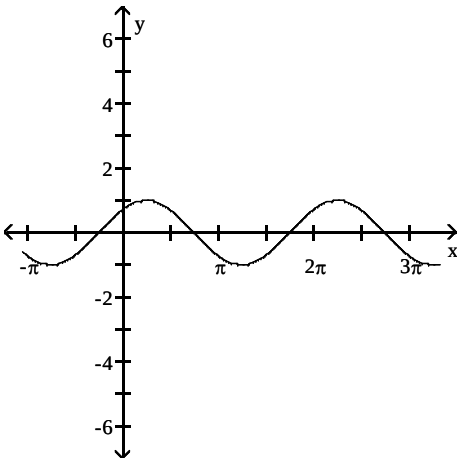
133) $y = \cos\left(x - \frac{\pi}{4}\right)$ 133) _____



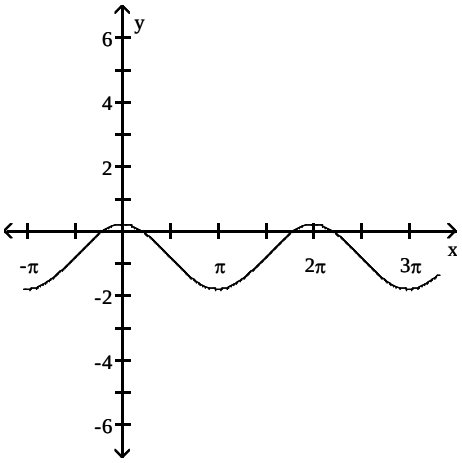
A)



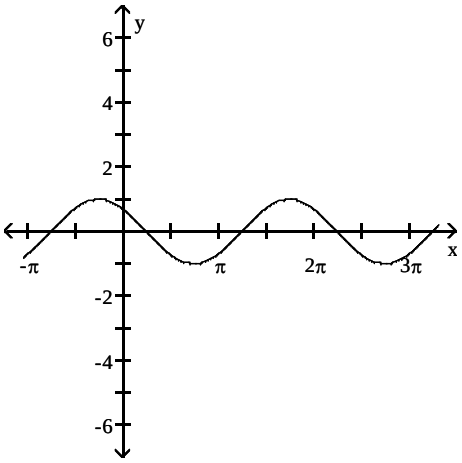
B)



C)



D)



Answer: B

Objective: (6.4) Graph Functions of the Form y = A cos(ωx) Using Transformations

Answer Key
Testname: AAPRECALSUL10TH

1) D
2) C
3) B
4) B
5) D
6) C
7) C
8) B
9) C
10) A
11) D
12) B
13) A
14) D
15) B
16) C
17) D
18) C
19) B
20) D
21) B
22) A
23) B
24) C
25) D
26) C
27) D
28) A
29) C
30) D
31) D
32) A
33) A
34) D
35) C
36) C
37) B
38) C
39) A
40) A
41) C
42) C
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50) A

51) B
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54) A
55) B
56) A
57) D
58) B
59) A
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62) B
63) B
64) B
65) C
66) D
67) C
68) C
69) A
70) B
71) B
72) D
73) A
74) C
75) A
76) A
77) B
78) B
79) D
80) C
81) D
82) B
83) D
84) D
85) A
86) A
87) B
88) A
89) B
90) D
91) B
92) B
93) C
94) C
95) A
96) C
97) D
98) A
99) B
100) A

101) D
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103) A
104) D
105) C
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107) B
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109) D
110) D
111) C
112) C
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114) B
115) B
116) D
117) B
118) A
119) A
120) B
121) A
122) B
123) B
124) A
125) B
126) D
127) C
128) D
129) B
130) D
131) A
132) C
133) B