TSIpractice exam review 61 131 180 plus 234 TSI questions for elementary and intermediate algebra m032000043015 aaa

Name_____

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

Find the mean for the list of numbers.

1) Annual sales bonuses: $1450, $4460, $6940, $7240, $1880, $6250 1) _____
Round answer to the nearest whole number if necessary.
A) $7240 B) $6940 C) $4703 D) $4702

Answer: C
Objective: (7.3) Find the Mean of a Set of Numbers
final007 interactmath 7.2 quick check 7.2.6

Solve the equation. Check your solution.

2) $-7x - 7 = 1 + 9x$ 2) _____
A) $\left\{-\frac{1}{3}\right\}$ B) $\{-2\}$ C) $\{2\}$ D) $\left\{-\frac{1}{2}\right\}$

Answer: D
Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation
final016 interactmath 8.2 #51

3) $3x - 8 = 4(x + 1)$ 3) _____
A) {12} B) {–4} C) {–12} D) {4}

Answer: C
Objective: (8.3) Solve a Linear Equation with the Variable on Both Sides of the Equation
final017 interactmath 8.2 #53

4) $\frac{5x}{2} + 3 = \frac{1}{7}$ 4) _____
A) $\left\{\frac{2}{5}\right\}$ B) $\left\{-\frac{8}{7}\right\}$ C) $\left\{-\frac{41}{35}\right\}$ D) $\left\{\frac{33}{35}\right\}$

Answer: B
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final018 interactmath 8.3 #29

5) $\frac{13}{10}x + \frac{6}{5} = \frac{6}{5}x$ 5) _____
A) {12} B) {24} C) {–24} D) {–12}

Answer: D
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final019 interactmath 8.3 #35

6) $\frac{r+6}{5} = \frac{r+8}{7}$ 6) _____
A) {1} B) {–2} C) {–1} D) {2}

Answer: C
Objective: (8.4) Use the Least Common Denominator to Solve a Linear Equation Containing Fractions
final020 interactmath 8.3 #31

Substitute the given values into the formula and then evaluate to find the unknown quantity. Label units in your answer. If the answer is not exact, round your answer to the nearest hundredth.

7) $P = 2L + 2W$; $P = 28$, $W = 9$ 7) _____

A) 14 units B) 5 units C) 9.5 units D) 19 units

Answer: B
Objective: (8.5) Evaluate a Formula
final027 interactmath 8.4 #35

8) Use the formula $C = \frac{5}{9}(F - 32)$ to convert 167° F to degrees Celsius. 8) _____

A) 110.6° C B) 60.8° C C) 332.6° C D) 75° C

Answer: D
Objective: (8.5) Evaluate a Formula
final030 interactmath 8.4 #29

Solve the problem.

9) The area of a circle with radius r is given by the formula $A = \pi r^2$. Find the area of a circle with radius 7 centimeters. Use 3.14 for π. 9) _____

A) 153.86 cm^2 B) 10.14 cm^2 C) 69.02 cm^2 D) 21.98 cm^2

Answer: A
Objective: (8.5) Evaluate a Formula
final032 interactmath 8.4 #39b

Solve for y.

10) $14x + 9y = 10$ 10) _____

A) $y = \frac{10 - 14x}{9}$ B) $y = \frac{14}{9}x - \frac{10}{9}$ C) $y = \frac{14x - 10}{9}$ D) $y = \frac{14x + 10}{9}$

Answer: A
Objective: (8.5) Solve a Formula for a Variable
final041 interactmath 8.4 #61

Solve the problem.

11) The sum of a number and three is negative eleven. Find the number. 11) _____

A) 14 B) –14 C) –8 D) 0

Answer: B
Objective: (8.6) Build Models for Solving Direct Translation Problems
final042 interactmath 8.5 #61

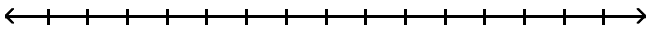
12) A rectangular carpet has a perimeter of 198 inches. The length of the carpet is 61 inches more than the width. What are the dimensions of the carpet? 12) _____

A) 80 by 99 inches B) 59 by 78 inches
C) 89.5 by 99 inches D) 80 by 19 inches

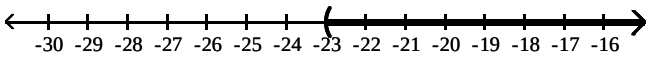
Answer: D
Objective: (8.8) Use Geometry Formulas to Solve Problems
final052 interactmath 8.7 #37

Solve the inequality and express the solution set in interval notation. Graph the solution set on the real number line.

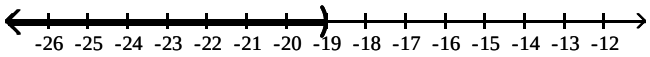
13) $6x - 2 < 7(x - 3)$ 13) _____



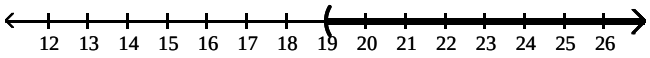
A) $(-23, \infty)$



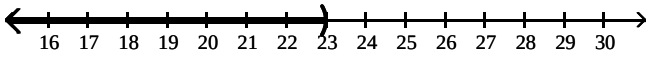
B) $(-\infty, -19)$



C) $(19, \infty)$



D) $(-\infty, 23)$



Answer: C
Objective: (8.9) Solve Linear Inequalities Using Properties of Inequality
final068 interactmath 8.8 #75 quick check 8.8.17

Solve the problem.

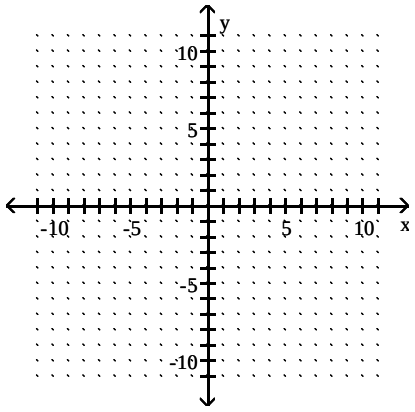
14) Find an ordered pair that satisfies the equation $4x + y = -34$ by letting $x = -9$. 14) _____

A) $(-9, -9)$ B) $(-9, 2)$ C) $(-9, -38)$ D) $(2, -9)$

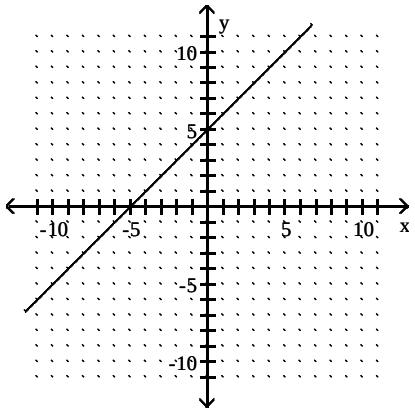
Answer: B
Objective: (9.2) Determine If an Ordered Pair Satisfies an Equation
final074 interactmath 9.1 #35

Use the slope and y–intercept to graph the equation.

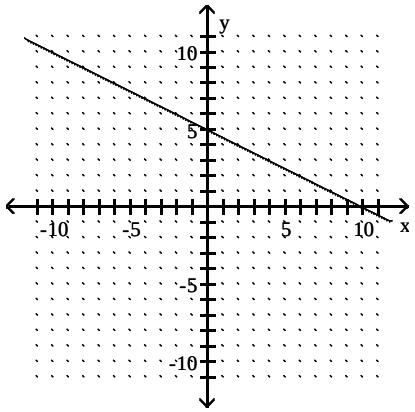
15) $y = \frac{1}{2}x + 5$ 15) _____



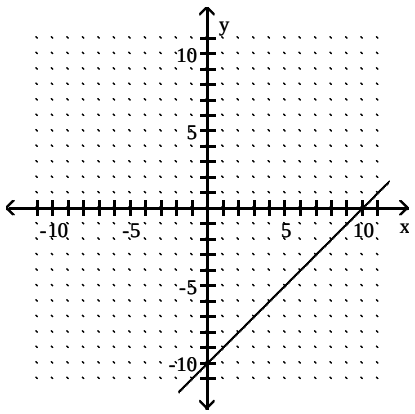
A)



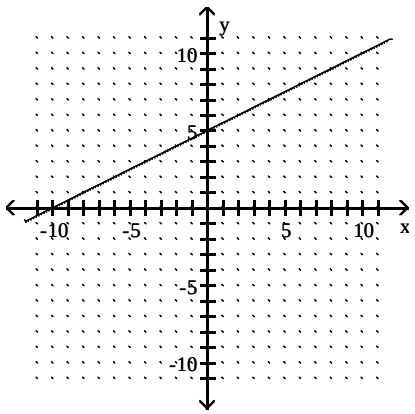
B)



C)



D)



Answer: D
Objective: (9.5) Graph a Line Whose Equation Is in Slope–Intercept Form
final092 interactmath 9.4 #45

Solve the system of equations using substitution.

16) $\begin{cases} x + y = -6 \\ y = 2x \end{cases}$ 16) _____

A) (–2, 4) B) (–2, –4) C) (2, 4) D) (2, –4)

Answer: B
Objective: (10.3) Solve a System of Linear Equations Using the Substitution Method
final102 interactmath 10.2 #13,35

Solve the system of equations using elimination.

17) $\begin{cases} 3x + y = -30 \\ 5x - y = 6 \end{cases}$ 17) _____

A) (–3, –21) B) no solution
C) infinitely many solutions D) (–21, –3)

Answer: A
Objective: (10.4) Solve a System of Linear Equations Using the Elimination Method
final103 interactmath 10.3 #15

Subtract the polynomials. Express your answer in standard form.

18) $(7x^2 + 20x + 5) - (5x^2 - 4x - 12)$ 18) _____

A) $2x^2 + 24x - 7$ B) $2x^2 + 25x - 7$ C) $43x^9$ D) $2x^2 + 24x + 17$

Answer: D
Objective: (11.2) Simplify Polynomials by Combining Like Terms
final109 interactmath 11.1 #73,75

Evaluate the polynomial for the given value.

19) $-2x^2 + 8x - 3 \quad x = -3$ 19) _____

A) 39 B) 3 C) −9 D) −45

Answer: D
Objective: (11.2) Evaluate Polynomials
final110 interactmath 11.1 #85

Simplify the expression.

20) $(-8x^9y^8z)^2$ 20) _____

A) $-8x^{11}y^{10}z$ B) $-64x^{18}y^{16}z^2$ C) $16x^{18}y^{16}z^2$ D) $64x^{18}y^{16}z^2$

Answer: D
Objective: (11.3) Simplify Exponential Expressions Containing Products
final111 interactmath 11.2 #49

Multiply the monomials.

21) $(7x^6y)(8x^2y^4)$ 21) _____

A) $56x^8y^5$ B) $56x^8y^4$ C) $56x^{12}y^4$ D) $15x^8y^4$

Answer: A
Objective: (11.3) Multiply a Monomial by a Monomial
final113 interactmath 11.2 #63

Use the Distributive Property to find the product.

22) $2y^2(3y^2 + 3y - 7)$ 22) _____

A) $6y^4 + 6y - 14$ B) $5y^4 + 5y - 5$
C) $6y^4 + 6y^3 - 14y^2$ D) $6y^4 + 6y^2 - 14$

Answer: C
Objective: (11.4) Multiply a Polynomial by a Monomial
final116 interactmath 11.3 #39

Find the product of the sum and difference of two terms.

23) $(2x + 5y)(2x - 5y)$ 23) _____

A) $4x^2 - 20xy - 25y^2$ B) $4x^2 + 25y^2$
C) $4x^2 + 20xy - 25y^2$ D) $4x^2 - 25y^2$

Answer: D
Objective: (11.4) Multiply the Sum and Difference of Two Terms
final126 interactmath 11.3 #65

Find the product.

24) $(6x - 11y)^2$ 24) _____

A) $36x^2 + 121y^2$ B) $6x^2 + 121y^2$
C) $36x^2 - 132xy + 121y^2$ D) $6x^2 - 132xy + 121y^2$

Answer: C
Objective: (11.4) Square a Binomial
fina130 interactmath 11.3 #79

Use the Quotient Rule to simplify. All variables are nonzero.

25) $\dfrac{56m^{20}n^{14}}{7m^{19}n^{10}}$ 25) _____

A) $8n^4$ B) $8mn^4$ C) $56mn^4$ D) $8m^{39}n^{24}$

Answer: B
Objective: (11.5) Simplify Exponential Expressions Using the Quotient Rule
final135 interactmath 11.4 #41

Use the Quotient to a Power Rule to simplify. All variables are nonzero.

26) $\left(\frac{5}{6}\right)^3$ 26) _____

A) $\frac{6}{125}$ B) $\frac{125}{6}$ C) $\frac{216}{125}$ D) $\frac{125}{216}$

Answer: D
Objective: (11.5) Simplify Exponential Expressions Using the Quotient to a Power Rule
final137 interactmath 11.4 #43

Use the Negative Exponent Rules to simplify. Write the answer with positive exponents. All variables are nonzero.

27) 3^{-4} 27) _____

A) –81 B) $\frac{1}{81}$ C) $\frac{1}{12}$ D) 81

Answer: B
Objective: (11.5) Simplify Exponential Expressions Using Negative Exponents
final142 interactmath 11.4 #63

Divide and simplify.

28) $\frac{21r^7 - 35r^4}{7r}$ 28) _____

A) $3r^8 - 5r^5$ B) $3r^6 - 5r^3$ C) $21r^6 - 35r^3$ D) $3r^7 - 5r^4$

Answer: B
Objective: (11.6) Divide a Polynomial by a Monomial
final144 interactmath 11.5 #13

Factor the GCF from the polynomial.

29) $20x^5y + 36xy^6$ 29) _____

A) $4y(5x^5 + 9xy^5)$ B) $4xy(5x^4 + 9y^5)$ C) $xy(20x^4 + 36y^5)$ D) $4x(5x^4y + 9y^6)$

Answer: B
Objective: (12.2) Factor Out the Greatest Common Factor in Polynomials
final150 interactmath 12.2 #47,51

Factor the trinomial completely. If the trinomial cannot be factored, say it is prime.

30) $x^2 + x - 20$ 30) _____

A) (x – 5)(x + 4) B) (x + 1)(x – 20) C) prime D) (x – 4)(x + 5)

Answer: D
Objective: (12.3) Factor Trinomials of the Form x^2 + bx + c
final153 interactmath 12.2 #63

31) $x^2 - x - 12$ 31) _____

A) (x + 3)(x – 4) B) (x + 1)(x – 12) C) (x + 4)(x – 3) D) prime

Answer: A
Objective: (12.3) Factor Trinomials of the Form x^2 + bx + c
final155 interactmath 12.2 #27

32) $x^2 - 6x + 8$ 32) _____

A) (x – 4)(x – 2) B) (x + 4)(x – 2) C) prime D) (x + 4)(x + 1)

Answer: A
Objective: (12.3) Factor Trinomials of the Form x^2 + bx + c
final156 interactmath 12.2 #27

33) $4x^2 + 12x - 40$ 33) _____

A) $4(x + 2)(x - 5)$ B) $4(x - 2)(x + 5)$ C) $(4x + 8)(x - 5)$ D) $(x - 2)(4x + 20)$

Answer: B
Objective: (12.3) Factor Out the GCF, Then Factor x^2 + bx + c
final158 interactmath 12.2 #45

Factor the polynomial completely using the trial and error method.

34) $6x^2 - x - 7$ 34) _____

A) $(6x - 1)(x + 7)$ B) $(6x - 7)(x + 1)$ C) $(6x + 1)(x - 7)$ D) $(6x + 7)(x - 1)$

Answer: B
Objective: (12.4) Factor ax^2 + bx + c, a ≠ 1, Using Trial and Error
fin159 interactmath 12.3 #27

Factor completely. If the polynomial is prime, state so.

35) $4x^2 - \frac{4}{9}$ 35) _____

A) $\left(2x + \frac{2}{3}\right)^2$ B) $\left(2x - \frac{2}{3}\right)^2$

C) $\left(4x + \frac{4}{9}\right)\left(4x - \frac{2}{9}\right)$ D) $\left(2x + \frac{2}{3}\right)\left(2x - \frac{2}{3}\right)$

Answer: D
Objective: (12.5) Factor Difference of Two Squares
final161 interactmath 12.4 #39,41

36) $81x^2 - 16y^2$ 36) _____

A) $(9x + 4y)(9x - 4y)$ B) prime

C) $(9x + 4y)^2$ D) $(9x - 4y)^2$

Answer: A
Objective: (12.5) Factor Difference of Two Squares
final162 interactmath #39,41

Factor completely. If a polynomial cannot be factored, say it is prime.

37) $x^3 - 5x^2 - 6x$ 37) _____

A) $x(x - 6)(x + 1)$ B) $x(x - 6)(x - 1)$ C) $x(x^2 - 5x - 6)$ D) $x(x + 6)(x + 1)$

Answer: A
Objective: (12.6) Factor Polynomials Completely
fin164 interactmath 12.2 #47

38) $5y^3 - 5y^2 - 100y$ 38) _____

A) $5y(y - 4)(y + 5)$ B) $(y - 4)(5y^2 + 25)$

C) $5y(y + 4)(y - 5)$ D) $(5y^2 + 20y)(y - 5)$

Answer: C
Objective: (12.6) Factor Polynomials Completely
fin165 interactmath 12.2 #47

Solve the equation by factoring.

39) $x(4x + 12) = 0$ 39) _____

A) $\left\{0, \frac{1}{3}\right\}$ B) {0, 3} C) {0, –3} D) $\left\{0, -\frac{1}{3}\right\}$

Answer: C
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final166 interactmath 12.6 #25

40) $5x(6x + 30) = 0$ 40) _____

A) {0, –5} B) {0, –5 , 5} C) $\left\{0, -\frac{1}{5}\right\}$ D) {0, 5}

Answer: A
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final167 interactmath 12.6 #25

41) $x^2 + 2x - 48 = 0$ 41) _____

A) {–8, 6} B) {8, –6} C) {8, 6} D) {–8, 1}

Answer: A
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final170 interactmath 12.6 #35,37

42) $x^2 - 17x + 72 = 0$ 42) _____

A) {–9, –8} B) {9, 8} C) {72, 0} D) {–9, 8}

Answer: B
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final171 interactmath 12.6 #37

43) $2x^2 - 3x - 5 = 0$ 43) _____

A) $\left\{\frac{2}{5}, 0\right\}$ B) $\left\{\frac{2}{5}, -1\right\}$ C) $\left\{\frac{5}{2}, -1\right\}$ D) $\left\{\frac{2}{5}, 1\right\}$

Answer: C
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final172 interactmath 12.6 #41

44) $x^2 - x = 42$ 44) _____

A) {6, 7} B) {–6, –7} C) {1, 42} D) {–6, 7}

Answer: D
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final173 interactmath 12.6 #47

45) $x^2 = 2x$ 45) _____

A) {2} B) {0, –2} C) {0, 2} D) {–2}

Answer: C
Objective: (12.7) Solve Quadratic Equations Using the Zero–Product Property
final174 interactmath 12.6 #39,45

Perform the indicated operation.

46) $\frac{8m^2p}{33p^4} \cdot \frac{11mp^3}{24m^7}$ 46) _____

A) $\frac{m^4}{9}$ B) $\frac{1}{9m^{10}}$ C) $\frac{m^{10}}{9}$ D) $\frac{1}{9m^4}$

Answer: D
Objective: (13.3) Multiply Rational Expressions
fin176 interactmath 13.2 #15,17

Solve the equation and state the solution set.

47) $\frac{3}{x} - \frac{1}{4} = \frac{5}{x}$ 47) _____

A) $\left\{\frac{5}{3}\right\}$ B) {2} C) {–8} D) {8}

Answer: C
Objective: (13.8) Solve Equations Containing Rational Expressions
fin183 interactmath 13.7 #17

Find the function value.

48) Find f(3) when $f(x) = x^2 + 3x - 4$. 48) _____

A) –4 B) 4 C) 22 D) 14

Answer: D
Objective: (14.4) Find the Value of a Function
final188 interactmath 14.3 #59

49) Find f(–9) when $f(x) = |x| - 6$. 49) _____

A) 3 B) –3 C) 15 D) –15

Answer: A
Objective: (14.4) Find the Value of a Function
final189 interactmath 14.3 #69

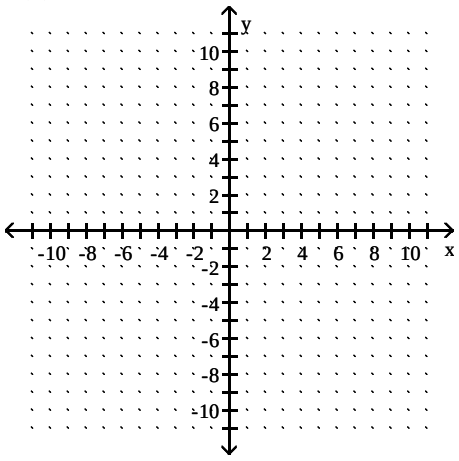
50) $f(x) = \frac{x + 5}{14x - 10}$; f(–10) 50) _____

A) $\frac{1}{26}$ B) $-\frac{1}{12}$ C) $\frac{1}{30}$ D) $-\frac{1}{30}$

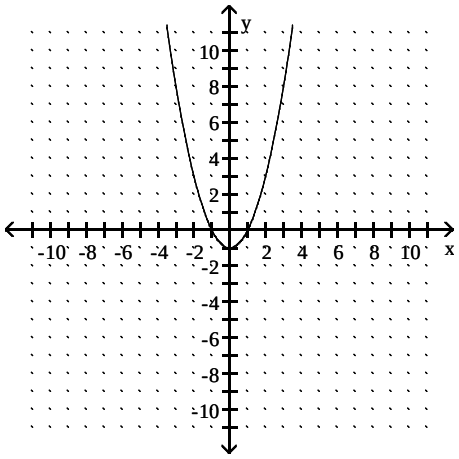
Answer: C
Objective: (14.4) Find the Value of a Function
final190 interactmath 14.3 #71

Graph the function.

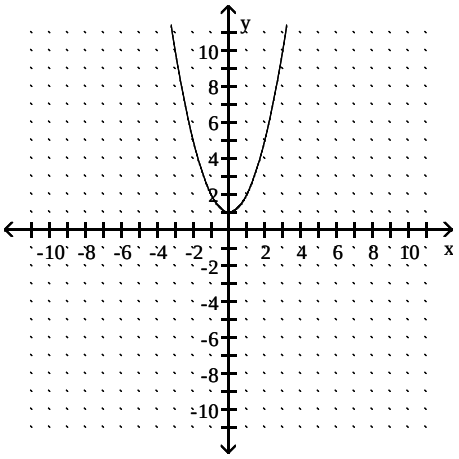
51) $h(x) = x^2 - 1$ 51) _____



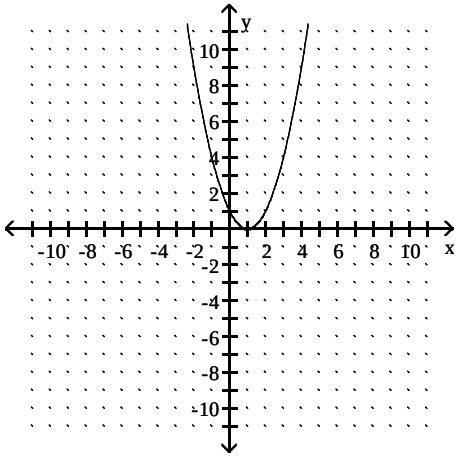
A)



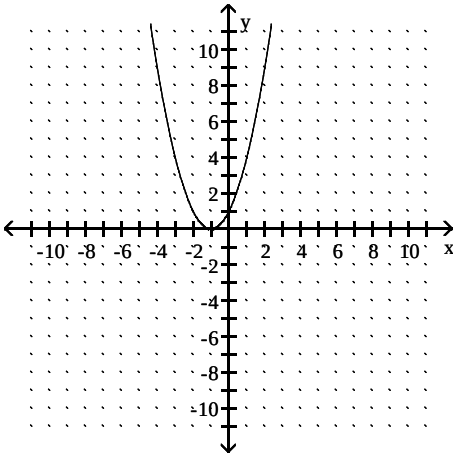
B)



C)



D)



Answer: A
Objective: (14.5) Graph a Function
fin194 interactmath 14.1 #39

Evaluate the radical function at the indicated value.

52) $f(x) = \sqrt{2x - 1}$ 52) _____

$f(13)$

A) 25 B) 26 C) 5 D) 5.1

Answer: C
Objective: (15.8) Evaluate Functions Whose Rule Is a Radical Expression
final205 interactmath 15.7 #11

Solve the equation.

53) $\sqrt{2x} = 6$ 53) _____

A) $\{3\}$ B) {72} C) {12} D) $\{18\}$

Answer: D
Objective: (15.9) Solve Radical Equations Containing One Radical
final206 interactmath 15.8 #13

54) $\sqrt{x + 5} = 6$ 54) _____

A) {41} B) {121} C) {36} D) {31}

Answer: D
Objective: (15.9) Solve Radical Equations Containing One Radical
final207 interactmath 15.8 #15

Use the square root property to solve the equation.

55) $x^2 = 196$ 55) _____

A) {–14, 14} B) {–15, 15} C) {14} D) {98}

Answer: A
Objective: (16.2) Solve Quadratic Equations Using the Square Root Property
fin213 interactmath 16.1 #19

56) $(x - 7)^2 = 4$ 56) _____

A) {9, 5} B) {2, –2} C) {11} D) {5, –9}

Answer: A
Objective: (16.2) Solve Quadratic Equations Using the Square Root Property
fin215 interactmath 16.1 quick check 16.1.7

Use the quadratic formula to solve the equation.

57) $x^2 + 6x - 7 = 0$ 57) _____

A) {7, 1} B) {7, –1} C) {– 7, 1} D) {–7, 0}

Answer: C
Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
fin219 interactmath 16.2 #23

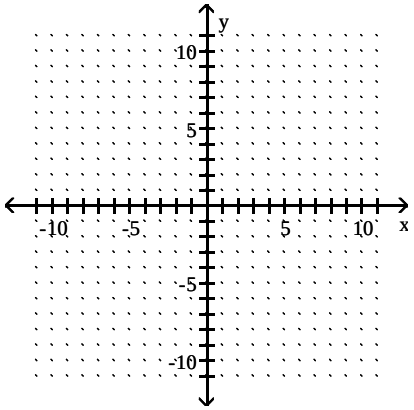
58) $x^2 + 12x + 14 = 0$ 58) _____

A) $\{6 + \sqrt{22}\}$ B) $\{6 - \sqrt{14}, 6 + \sqrt{14}\}$
C) $\{-6 - \sqrt{22}, -6 + \sqrt{22}\}$ D) $\{-12 + \sqrt{14}\}$

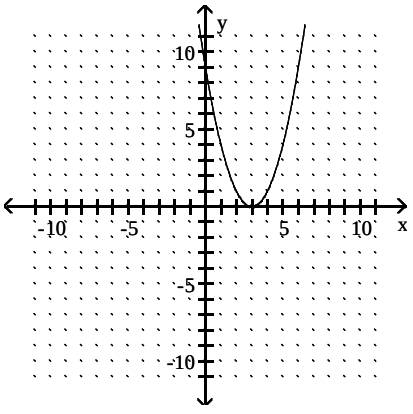
Answer: C
Objective: (16.3) Solve Quadratic Equations Using the Quadratic Formula
fin221 interactmath 16.2 #33,51,57

Sketch the graph of the quadratic function.

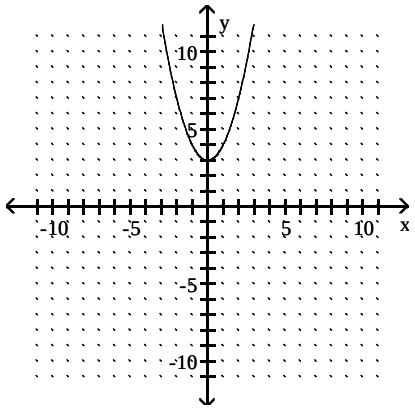
59) $f(x) = x^2 + 3$ 59) _____



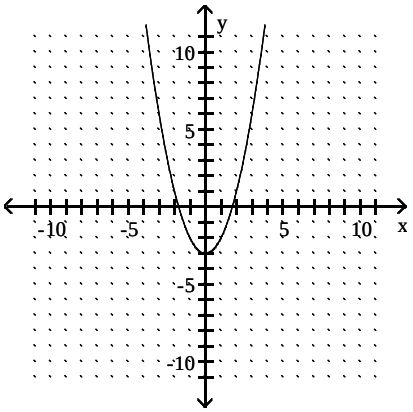
A)



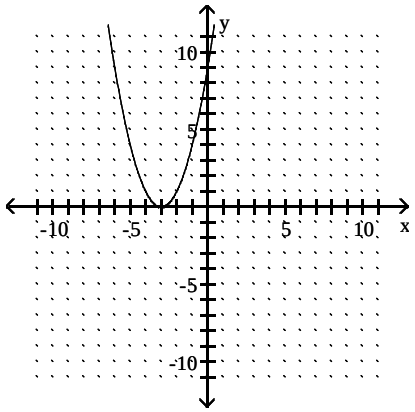
B)



C)



D)



Answer: B

Objective: (16.5) Graph Quadratic Functions of the Form f(x) = x^2 + k

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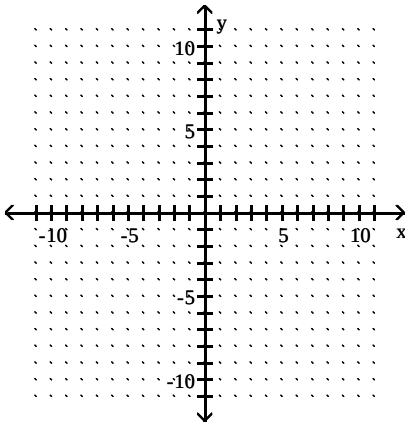
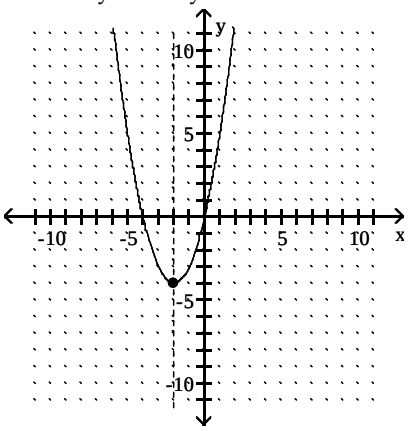
Sketch the graph of the quadratic function. Identify the vertex and axis of symmetry.

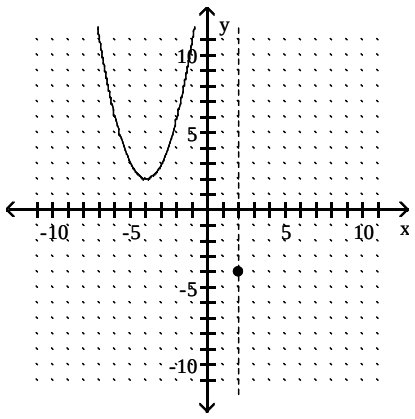
60) $f(x) = (x + 2)^2 - 4$ 60) _____



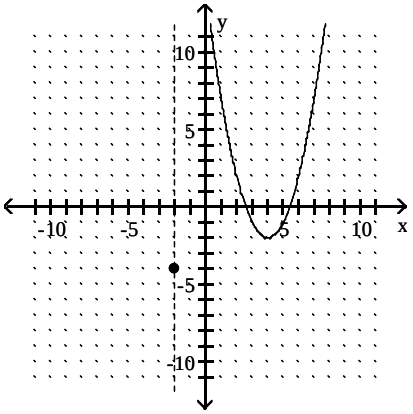
A) vertex: (– 2, – 4)
axis of symmetry: x = – 2



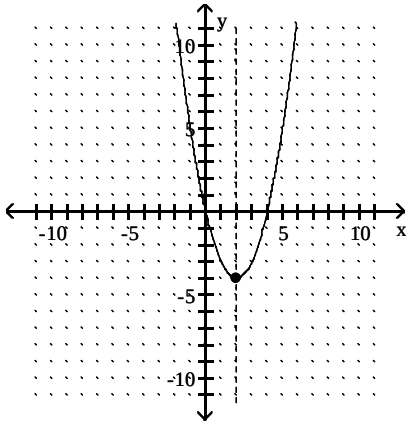
B) vertex: (2, – 4)
axis of symmetry: x = 2



C) vertex: (– 2, – 4)
axis of symmetry: x = – 2



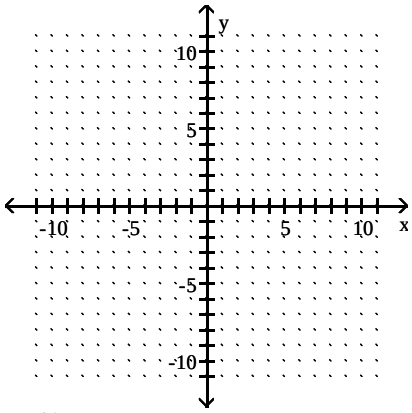
D) vertex: (2, – 4)
axis of symmetry: x = 2



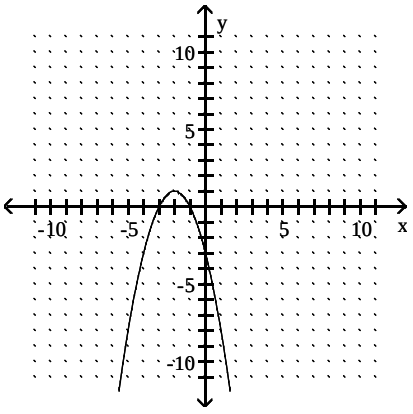
Answer: A
Objective: (16.5) Graph Quadratic Functions of the Form f(x) = (x – h)^2
fin229 interactmath 16.4 #41

Graph the quadratic function.

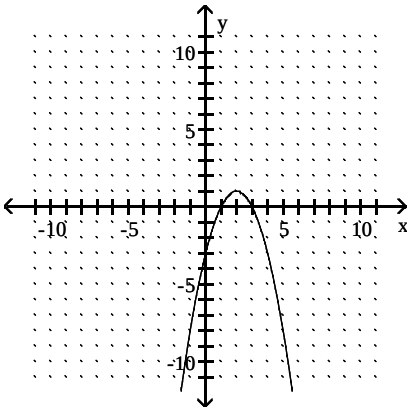
61) $f(x) = -x^2 + 4x - 3$ 61) _____



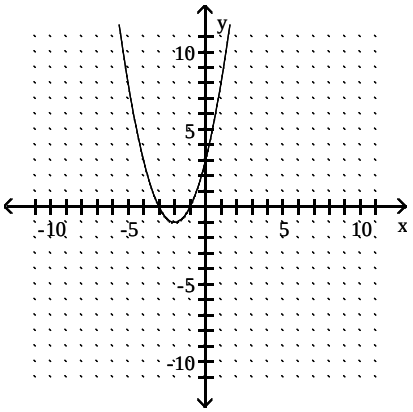
A)



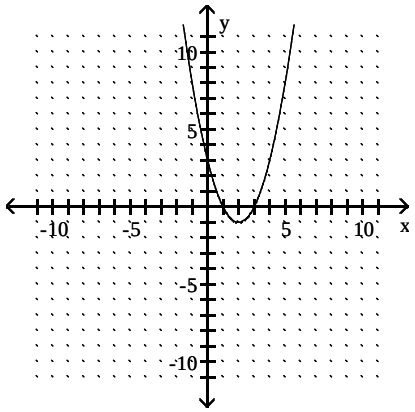
B)



C)



D)



Answer: B

Objective: (16.5) Graph Quadratic Functions of the Form f(x) = ax^2 + bx + c

fin231 interactmath 16.5 #35

Answer Key
Testname: AATSI61ONLINE

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

51) A
52) C
53) D
54) D
55) A
56) A
57) C
58) C
59) B
60) A
61) B