Exam

Name_____

review math0410 (1-174) and math 0320 (175-243) 03201700aafinm041024300 mg

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

Simplify.

1) $7^2 - 3 \cdot 5$ 1) _____

A) 34 B) 230 C) 80 D) 140

Answer: A

Objective: (1.7) Use Order of Operations

2) $\dfrac{193 + 7}{3^2 - 4}$ 2) _____

A) 40 B) 100 C) 60 D) 38

Answer: A

Objective: (1.7) Use Order of Operations

Evaluate the expression for the given replacement values.

3) $4x + 5y$ for $x = 8$ and $y = 6$ 3) _____

A) 62 B) 37 C) 34 D) 9

Answer: A

Objective: (1.8) Evaluate Algebraic Expressions Given Replacement Values

4) $8x^2 + 5x$ for $x = 4$ 4) _____

A) 148 B) 108 C) 84 D) 52

Answer: A

Objective: (1.8) Evaluate Algebraic Expressions Given Replacement Values

Simplify.

5) $|16|$ 5) _____

A) 16 B) –16 C) 32 D) 0

Answer: A

Objective: (2.1) Find the Absolute Value of a Number

6) $|-22|$ 6) _____

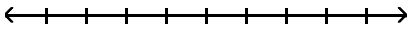
A) 22 B) –22 C) 44 D) 0

Answer: A

Objective: (2.1) Find the Absolute Value of a Number

Add the numbers using the number line.

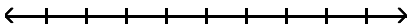
7) 3 + (–4) 7) _____



A) –1 B) 1 C) 7 D) –7

Answer: A
Objective: (2.2) Add Integers

8) –9 + (–3) 8) _____



A) –12 B) 12 C) –6 D) 6

Answer: A
Objective: (2.2) Add Integers

Evaluate the expression for the given replacement values.

9) 2x + y for x = 3 and y = –12 9) _____

A) –6 B) –9 C) 18 D) 15

Answer: A
Objective: (2.2) Evaluate an Algebraic Expression by Adding

Subtract.

10) –11 – (–7) 10) _____

A) –4 B) 18 C) 4 D) –18

Answer: A
Objective: (2.3) Subtract Integers

11) 2 – 2 11) _____

A) 0 B) –2 C) 4 D) 2

Answer: A
Objective: (2.3) Subtract Integers

12) –15 – 15 12) _____

A) –30 B) 30 C) –15 D) 0

Answer: A
Objective: (2.3) Subtract Integers

Multiply.

13) –3(6) 13) _____

A) –18 B) 18 C) –15 D) 8

Answer: A
Objective: (2.4) Multiply Integers

14) –18(–10) 14) _____

A) 180 B) 198 C) –198 D) 190

Answer: A
Objective: (2.4) Multiply Integers

15) 0(−6) 15) _____

A) 0 B) 6 C) −6 D) −12

Answer: A

Objective: (2.4) Multiply Integers

Find the average of the list of numbers.

16) −13, −7, −3, −4, 0, −9 16) _____

A) −6 B) −5 C) −7 D) −4

Answer: A

Objective: (2.5) Find the Average of a List of Numbers

Solve the equation.

17) a + 1 = 13 17) _____

A) 12 B) −12 C) −14 D) 14

Answer: A

Objective: (2.6) Use the Addition Property of Equality to Solve Equations

18) f + 1 = −2 18) _____

A) −3 B) 3 C) −1 D) 1

Answer: A

Objective: (2.6) Use the Addition Property of Equality to Solve Equations

19) d − 5 = −18 19) _____

A) −13 B) 23 C) −23 D) 13

Answer: A

Objective: (2.6) Use the Addition Property of Equality to Solve Equations

20) 19 = y − 11 20) _____

A) 30 B) −30 C) −8 D) 8

Answer: A

Objective: (2.6) Use the Addition Property of Equality to Solve Equations

21) 8v = 7v − 16 21) _____

A) −16 B) 16 C) −15 D) −9

Answer: A

Objective: (2.6) Use the Addition Property of Equality to Solve Equations

22) 6x = 54 22) _____

A) 9 B) 48 C) 60 D) 324

Answer: A

Objective: (2.6) Use the Multiplication Property of Equality to Solve Equations

23) 4z = −12 23) _____

A) −3 B) −16 C) 16 D) 3

Answer: A

Objective: (2.6) Use the Multiplication Property of Equality to Solve Equations

24) $-7y = 42$ 24) _____

A) -6 B) 49 C) -49 D) 6

Answer: A

Objective: (2.6) Use the Multiplication Property of Equality to Solve Equations

25) $-2x = -12$ 25) _____

A) 6 B) 10 C) -10 D) -6

Answer: A

Objective: (2.6) Use the Multiplication Property of Equality to Solve Equations

Simplify the expression by combining like terms.

26) $5x + 2x$ 26) _____

A) $7x$ B) $7 + x$ C) $10x$ D) $3x$

Answer: A

Objective: (3.1) Use Properties of Numbers to Combine Like Terms

27) $7x - 11x - x$ 27) _____

A) $-5x$ B) $-3x$ C) $-4x$ D) $-4x - x$

Answer: A

Objective: (3.1) Use Properties of Numbers to Combine Like Terms

28) $8a - 2a + a - 12$ 28) _____

A) $7a - 12$ B) $6a - 12$ C) $6a - 11$ D) $6a + a - 12$

Answer: A

Objective: (3.1) Use Properties of Numbers to Combine Like Terms

Multiply.

29) $9(5x + 4)$ 29) _____

A) $45x + 36$ B) $14x + 13$ C) $14x + 36$ D) $81x$

Answer: A

Objective: (3.1) Use Properties of Numbers to Multiply Expressions

Simplify the expression.

30) $4(3x - 5) + 5x$ 30) _____

A) $17x - 20$ B) $7x - 20$ C) $17x + 20$ D) $7x + 20$

Answer: A

Objective: (3.1) Simplify Expressions by Multiplying and Then Combining Like Terms

31) $2(4x + 2) + 3(x + 4)$ 31) _____

A) $11x + 16$ B) $11x + 6$ C) $14x + 16$ D) $24x$

Answer: A

Objective: (3.1) Simplify Expressions by Multiplying and Then Combining Like Terms

Solve the equation.

32) $x - 7 = -4 - 29$ 32) _____

A) -26 B) 26 C) -40 D) 40

Answer: A

Objective: (3.2) Use the Addition Property or the Multiplication Property to Solve Equations

33) $-12 = 3x - 5x$ 33) _____

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

Answer: A
Objective: (3.2) Use the Addition Property or the Multiplication Property to Solve Equations

34) $7x = 8(x + 6) - 7$ 34) _____

A) -41 B) 41 C) 55 D) -55

Answer: A
Objective: (3.2) Use the Addition Property or the Multiplication Property to Solve Equations

35) $4w - 16 = 0$ 35) _____

A) 4 B) -4 C) 0 D) 16

Answer: A
Objective: (3.2) Use Both Properties to Solve Equations

36) $5x + 4 = 49$ 36) _____

A) 9 B) 40 C) 44 D) 5

Answer: A
Objective: (3.2) Use Both Properties to Solve Equations

37) $96 = 10x - 4$ 37) _____

A) 10 B) 90 C) 94 D) 13

Answer: A
Objective: (3.2) Use Both Properties to Solve Equations

38) $2(5x - 2) = 8x$ 38) _____

A) 2 B) -2 C) -1 D) 1

Answer: A
Objective: (3.2) Use Both Properties to Solve Equations

39) $2(x - 12) = -15 - 3$ 39) _____

A) 3 B) -3 C) 6 D) -6

Answer: A
Objective: (3.2) Use Both Properties to Solve Equations

40) $9 - t = 21$ 40) _____

A) -12 B) 12 C) -13 D) 31

Answer: A
Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

41) $3w + 12 = 0$ 41) _____

A) -4 B) 4 C) 0 D) -12

Answer: A
Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

42) $3x - 9 = 0$ 42) _____

A) 3 B) 6 C) 10 D) 9

Answer: A

Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

43) $76 = 6 - 10x$ 43) _____

A) -7 B) 80 C) 84 D) 13

Answer: A

Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

44) $19 = 3x - 5$ 44) _____

A) 8 B) 21 C) 25 D) 11

Answer: A

Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

45) $5x - 6 = 2x - 30$ 45) _____

A) -8 B) 8 C) -10 D) 10

Answer: A

Objective: (3.3) Solve Linear Equations Using the Addition and Multiplication Properties

46) $15 - 29 = 2(x - 3)$ 46) _____

A) -4 B) 4 C) 18 D) -18

Answer: A

Objective: (3.3) Solve Linear Equations Containing Parentheses

Solve.

47) The product of 6 and a number amounts to 66. Find the number. 47) _____

A) 11 B) 396 C) 60 D) 12

Answer: A

Objective: (3.4) Use Problem-Solving Steps to Solve Problems

48) Five times some number, added to 4, amounts to 10 added to the product of 3 and the number. Find the number. 48) _____

A) 3 B) -3 C) 6 D) -6

Answer: A

Objective: (3.4) Use Problem-Solving Steps to Solve Problems

49) $x + \frac{1}{7} = \frac{6}{7}$ 49) _____

A) $\frac{5}{7}$ B) 1 C) $\frac{4}{7}$ D) $\frac{5}{6}$

Answer: A

Objective: (4.8) Solve Equations Containing Fractions

50) $4x - \frac{2}{5} - 3x = \frac{3}{10}$ 50) _____

A) $\frac{7}{10}$ B) $\frac{1}{3}$ C) $\frac{1}{2}$ D) $\frac{18}{25}$

Answer: A
Objective: (4.8) Solve Equations Containing Fractions

51) $\frac{1}{5} - \frac{1}{3} = \frac{x}{15}$ 51) _____

A) –2 B) 2 C) 8 D) –8

Answer: A
Objective: (4.8) Solve Equations Containing Fractions

52) $\frac{x}{5} = \frac{x}{6} + \frac{2}{5}$ 52) _____

A) 12 B) $-\frac{2}{5}$ C) 0 D) $\frac{1}{12}$

Answer: A
Objective: (4.8) Solve Equations Containing Fractions

53) $\frac{1}{5} + \frac{x}{4} = \frac{19}{20}$ 53) _____

A) 3 B) – 3 C) $\frac{15}{4}$ D) $-\frac{15}{4}$

Answer: A
Objective: (4.8) Solve Equations Containing Fractions

54) $\frac{1}{5} - \frac{2}{7} = \frac{x}{35}$ 54) _____

A) –3 B) 3 C) 17 D) –17

Answer: A
Objective: (4.8) Solve Equations by Multiplying by the LCD

55) $\frac{x}{5} = \frac{x}{6} + \frac{6}{5}$ 55) _____

A) 36 B) $-\frac{6}{5}$ C) 0 D) $\frac{1}{36}$

Answer: A
Objective: (4.8) Solve Equations by Multiplying by the LCD

56) $\frac{x}{5} + 2 = \frac{x}{2} - 4$ 56) _____

A) 20 B) – 20 C) $\frac{9}{5}$ D) $-\frac{9}{5}$

Answer: A
Objective: (4.8) Solve Equations by Multiplying by the LCD

Solve the equation.

57) $1.7 = 23.3 - x$ 57) _____

A) 21.6 B) 25 C) 21.1 D) 24.5

Answer: A

Objective: (5.6) Solve Equations Containing Decimals

58) $1.1x + 4.3 = 0.7x + 1.14$ 58) _____

A) −7.9 B) −7.8 C) 0.127 D) −7.11

Answer: A

Objective: (5.6) Solve Equations Containing Decimals

59) $x + 2.9 = 8.7$ 59) _____

A) 5.8 B) 11.6 C) −5.8 D) 3

Answer: A

Objective: (5.6) Solve Equations Containing Decimals

60) $5(x - 1.2) = 9.3$ 60) _____

A) 3.06 B) 1.62 C) 2.1 D) 15.3

Answer: A

Objective: (5.6) Solve Equations Containing Decimals

Find the mean. If necessary, round to one decimal place.

61) 17, 8, 23, 17 61) _____

A) 16.3 B) 16.8 C) 24.3 D) 14.8

Answer: A

Objective: (5.7) Find the Mean of a List of Numbers

Find the median. If necessary, round to one decimal place.

62) 1, 3, 11, 26, 44, 45, 48 62) _____

A) 26 B) 25.9 C) 11 D) 44

Answer: A

Objective: (5.7) Find the Median of a List of Numbers

63) 4, 6, 25, 23, 43, 47 63) _____

A) 24 B) 23 C) 21.5 D) 25

Answer: A

Objective: (5.7) Find the Median of a List of Numbers

Find the mode or modes (if any).

64) 20, 23, 46, 23, 49, 23, 49 64) _____

A) 23 B) 49 C) 33.3 D) 46

Answer: A

Objective: (5.7) Find the Mode of a List of Numbers

Translate to an equation and solve.

65) 75% of 12 is what number? 65) _____

A) 9 B) 1 C) 90 D) 1.6

Answer: A

Objective: (6.3) Solve Percent Problems

66) 19 is 4% of what number? 66) _____

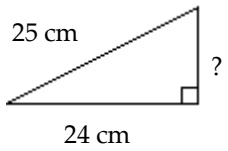
A) 475 B) 4750 C) 47.5 D) 76

Answer: A

Objective: (6.3) Solve Percent Problems

Find the unknown length in the right triangle. If necessary, approximate the length to the nearest thousandth.

67) 67) _____

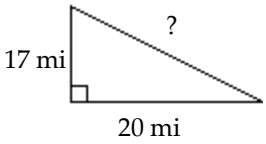


A) 7 cm B) 1 cm C) 9.322 cm D) 3.678 cm

Answer: A

Objective: (7.3) Use the Pythagorean Theorem

68) 68) _____



A) 26.249 mi B) 689 mi C) 344.5 mi D) 18.5 mi

Answer: A

Objective: (7.3) Use the Pythagorean Theorem

Draw a tree diagram for the experiment. Then use the diagram to find the number of possible outcomes.

69) Choose a number, 1, 2, and then a vowel, a,e,i,o,u. 69) _____

A) 10 outcomes B) 7 outcomes C) 8 outcomes D) 5 outcomes

Answer: A

Objective: (7.5) Use a Tree Diagram to Count Outcomes

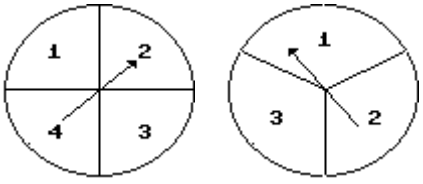
70) Roll a single die, and then toss a coin. 70) _____

A) 12 outcomes B) 8 outcomes C) 2 outcomes D) 6 outcomes

Answer: A

Objective: (7.5) Use a Tree Diagram to Count Outcomes

71) Spin the first spinner once and the second spinner once. 71) _____



A) 12 B) 7 C) 16 D) 9

Answer: A

Objective: (7.5) Use a Tree Diagram to Count Outcomes

Find the probability of the event.

72) If a single die is tossed once, find the probability of the following event. 72) _____
A 2

A) $\frac{1}{6}$ B) $\frac{1}{3}$ C) 2 D) 0

Answer: A
Objective: (7.5) Find the Probability of an Event

73) If a single die is tossed once, find the probability of the following event. 73) _____
A 3 or a 4

A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) 7 D) $\frac{1}{6}$

Answer: A
Objective: (7.5) Find the Probability of an Event

Find the probability of the event if a single choice is made from a bag.

74) A bag contains 7 red marbles, 7 blue marbles, 6 yellow marbles, and 6 green marbles. What is the probability of choosing a red marble when one marble is drawn? 74) _____

A) $\frac{7}{26}$ B) $\frac{7}{19}$ C) $\frac{1}{4}$ D) $\frac{1}{26}$

Answer: A
Objective: (7.5) Find the Probability of an Event

75) A bag contains 2 red marbles, 7 blue marbles, and 3 green marbles. What is the probability of choosing a blue marble when one marble is drawn? 75) _____

A) $\frac{7}{12}$ B) $\frac{1}{6}$ C) $\frac{1}{4}$ D) $\frac{7}{9}$

Answer: A
Objective: (7.5) Find the Probability of an Event

76) A bag contains 7 red marbles, 2 blue marbles, and 1 green marble. What is the probability of choosing a marble that is not blue when one marble is drawn from the bag? 76) _____

A) $\frac{4}{5}$ B) $\frac{5}{4}$ C) $\frac{1}{5}$ D) 8

Answer: A
Objective: (7.5) Find the Probability of an Event

Solve.

77) A new drug is being tested that is supposed to lower cholesterol. This drug was given to 200 people and the results are below. 77) _____

Lower Cholesterol	Higher Cholesterol	Cholesterol not Changed
134	8	58

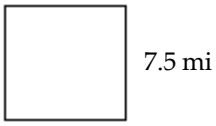
If a person is testing this drug, what is the probability that their cholesterol will be lower?

A) $\frac{67}{100}$ B) $\frac{71}{100}$ C) $\frac{33}{100}$ D) $\frac{24}{25}$

Answer: A
Objective: (7.5) Find the Probability of an Event

Find the perimeter of the figure.

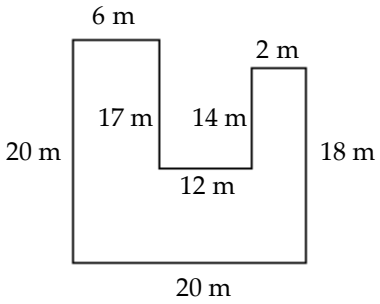
78) Square 78) _____



A) 30 mi B) 15 mi C) 112.5 mi D) 40 mi

Answer: A
Objective: (8.2) Use Formulas to Find Perimeters

79) 79) _____

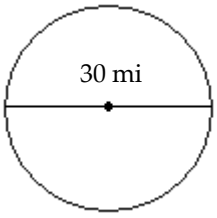


A) 109 m B) 80 m C) 95 m D) 92 m

Answer: A
Objective: (8.2) Use Formulas to Find Perimeters

Find the exact or approximate circumference of the circle, as indicated.

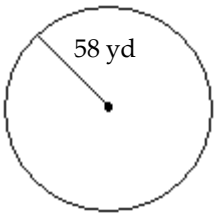
80) Find the exact circumference. 80) _____



A) 30π mi B) 60π mi C) 900π mi D) 15π mi

Answer: A
Objective: (8.2) Use Formulas to Find Circumferences

81) Find the exact circumference. 81) _____

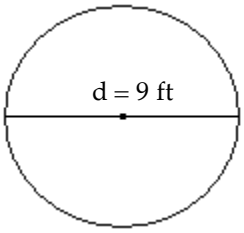


A) 116π yd B) 58π yd C) 3364π yd D) 29π yd

Answer: A
Objective: (8.2) Use Formulas to Find Circumferences

Find the area of the geometric figure.

82) 82) _____



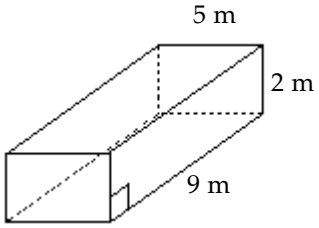
Use 3.14 for π.

A) 63.585 sq ft B) 254.34 sq ft C) 127.17 sq ft D) 56.52 sq ft

Answer: A
Objective: (8.3) Find the Area of Plane Regions

Find the volume of the solid. Use $\frac{22}{7}$ for π.

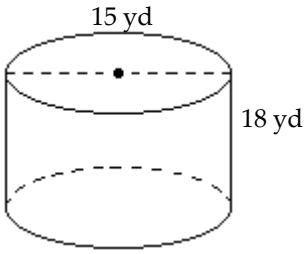
83) 83) _____



A) 90 cu m B) 16 cu m C) 10 cu m D) 270 cu m

Answer: A
Objective: (8.3) Find the Volume and Surface Area of Solids

84) 84) _____



A) $3182\frac{1}{7}$ cu yd B) $12728\frac{4}{7}$ cu yd C) $176\frac{11}{14}$ cu yd D) $707\frac{1}{7}$ cu yd

Answer: A
Objective: (8.3) Find the Volume and Surface Area of Solids

Solve the equation.

85) $6x - (3x - 1) = 2$ 85) _____

A) $\frac{1}{3}$ B) $\frac{1}{9}$ C) $-\frac{1}{3}$ D) $-\frac{1}{9}$

Answer: A
Objective: (9.3) Apply the General Strategy for Solving a Linear Equation

86) $8x - (4x - 1) = 2$ 86) _____

A) $\frac{1}{4}$ B) $\frac{1}{12}$ C) $-\frac{1}{4}$ D) $-\frac{1}{12}$

Answer: A
Objective: (9.3) Apply the General Strategy for Solving a Linear Equation

87) $6p = 8(4p + 9)$ 87) _____

A) $-\frac{36}{13}$ B) $\frac{36}{13}$ C) 12 D) $\frac{13}{36}$

Answer: A
Objective: (9.3) Apply the General Strategy for Solving a Linear Equation

88) $\frac{2x}{5} - \frac{x}{3} = 4$ 88) _____

A) 60 B) −60 C) 120 D) −120

Answer: A
Objective: (9.3) Solve Equations Containing Fractions or Decimals

89) $\frac{5}{6}x + \frac{4}{3} = \frac{2}{3}x$ 89) _____

A) −8 B) 8 C) −12 D) 12

Answer: A
Objective: (9.3) Solve Equations Containing Fractions or Decimals

90) $9x + 5 - 9x - 5 = 6x - 6x - 3$ 90) _____

A) 0 B) −288

C) all real numbers D) no solution

Answer: D

Objective: (9.3) Recognize Identities and Equations with No Solution

91) $2(x + 5) = (2x + 10)$ 91) _____

A) 20 B) 0

C) all real numbers D) no solution

Answer: C

Objective: (9.3) Recognize Identities and Equations with No Solution

Solve.

92) Six times a number, added to 2, is 20. Find the number. 92) _____

A) 3 B) −3 C) 18 D) 108

Answer: A

Objective: (9.4) Solve Problems Involving Direct Translations

93) Use the formula $F = \frac{9}{5}C + 32$ to write −40° C as degrees Fahrenheit. 93) _____

A) −40° F B) −4.6° F C) −104° F D) −40.2° F

Answer: A

Objective: (9.5) Use Formulas to Solve Problems

94) Use the formula $C = \frac{5}{9}(F - 32)$ to write 212° F as degrees Celsius. 94) _____

A) 100° C B) 413.6° C C) 135.6° C D) 85.8° C

Answer: A

Objective: (9.5) Use Formulas to Solve Problems

Solve the equation for the indicated variable.

95) $d = rt$ for r 95) _____

A) $r = \frac{d}{t}$ B) $r = dt$ C) $r = \frac{t}{d}$ D) $r = d - t$

Answer: A

Objective: (9.5) Solve a Formula or Equation for One of Its Variables

96) $I = Prt$ for t 96) _____

A) $t = \frac{I}{Pr}$ B) $t = \frac{P - I}{1 + r}$ C) $t = P - Ir$ D) $t = \frac{P - 1}{Ir}$

Answer: A

Objective: (9.5) Solve a Formula or Equation for One of Its Variables

97) $P = 2L + 2W$ for L 97) _____

A) $L = \frac{P - 2W}{2}$ B) $L = P - W$ C) $L = \frac{P - W}{2}$ D) $L = P - 2W$

Answer: A

Objective: (9.5) Solve a Formula or Equation for One of Its Variables

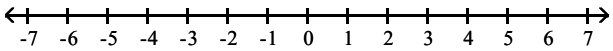
98) $A = P + PRT$ for T 98) _____

A) $T = \frac{A - P}{PR}$ B) $T = \frac{P - A}{PR}$ C) $T = \frac{A}{R}$ D) $T = \frac{PR}{A - P}$

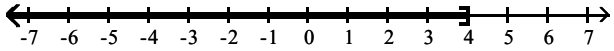
Answer: A
Objective: (9.5) Solve a Formula or Equation for One of Its Variables

Graph the inequality on a number line. Then write the solution in interval notation.

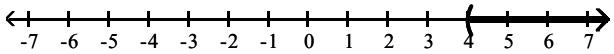
99) $x \leq 4$ 99) _____



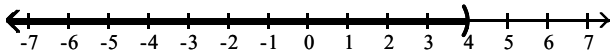
A) $(-\infty, 4]$



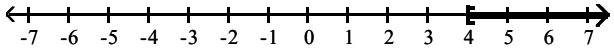
B) $(4, \infty)$



C) $(-\infty, 4)$

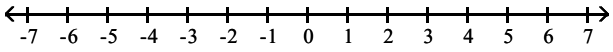


D) $[4, \infty)$

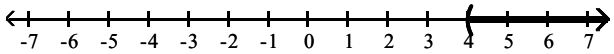


Answer: A
Objective: (9.6) Graph Inequalities on a Number Line

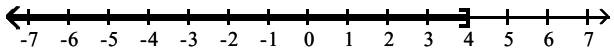
100) $x > 4$ 100) _____



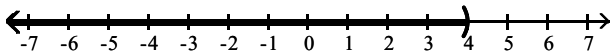
A) $(4, \infty)$



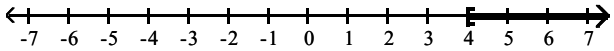
B) $(-\infty, 4]$



C) $(-\infty, 4)$



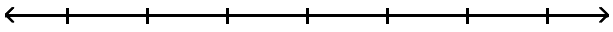
D) $[4, \infty)$



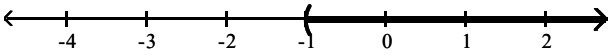
Answer: A
Objective: (9.6) Graph Inequalities on a Number Line

Solve the inequality.

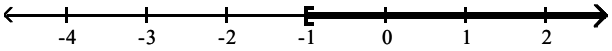
101) $x - 3 < -4$ 101) _____



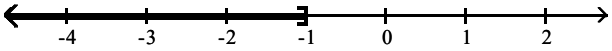
A) $(-1, \infty)$



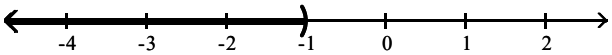
B) $[-1, \infty)$



C) $(-\infty, -1]$



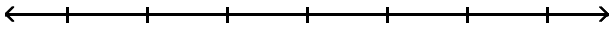
D) $(-\infty, -1)$



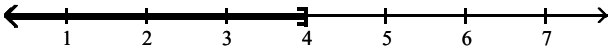
Answer: D

Objective: (9.6) Use the Addition Property of Inequality to Solve Inequalities

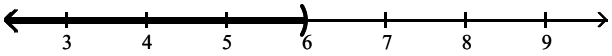
102) $-7x - 1 > -8x + 5$ 102) _____



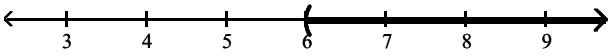
A) $(-\infty, 4]$



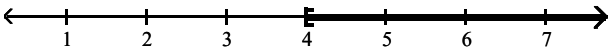
B) $(-\infty, 6)$



C) $(6, \infty)$



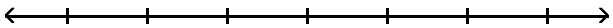
D) $[4, \infty)$



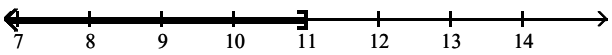
Answer: C

Objective: (9.6) Use the Addition Property of Inequality to Solve Inequalities

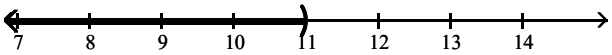
103) $6x \leq 66$ 103) _____



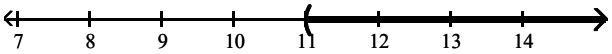
A) $(-\infty, 11]$



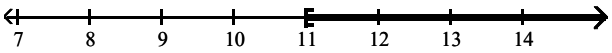
B) $(-\infty, 11)$



C) $(11, \infty)$



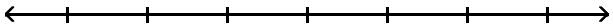
D) $[11, \infty)$



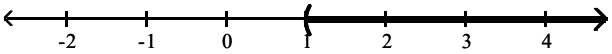
Answer: A
Objective: (9.6) Use the Multiplication Property of Inequality to Solve Inequalities

Solve the inequality. Graph the solution set and write it in interval notation.

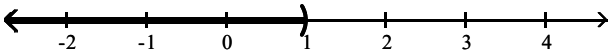
104) $21x + 9 > 3(6x + 4)$ 104) _____



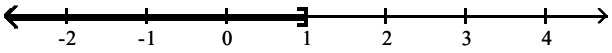
A) $(1, \infty)$



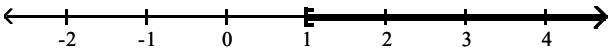
B) $(-\infty, 1)$



C) $(-\infty, 1]$

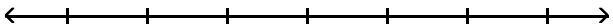


D) $[1, \infty)$

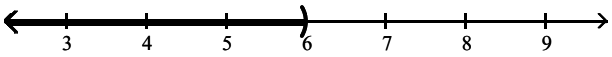


Answer: A
Objective: (9.6) Use Both Properties to Solve Inequalities

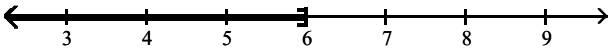
105) $-2(3x + 14) < -8x - 16$ 105) _____



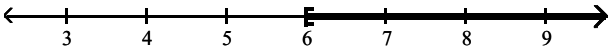
A) $(-\infty, 6)$



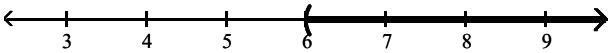
B) $(-\infty, 6]$



C) $[6, \infty)$

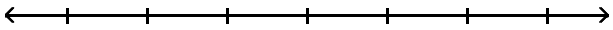


D) $(6, \infty)$

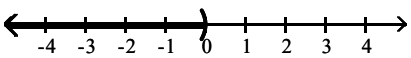


Answer: A
Objective: (9.6) Use Both Properties to Solve Inequalities

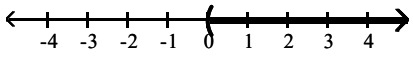
106) $6x + 8 + 9x < 4 + 13x + 4$ 106) _____



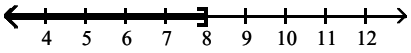
A) $(-\infty, 0)$



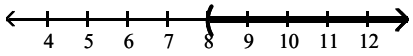
B) $(0, \infty)$



C) $(-\infty, 8]$



D) $(8, \infty)$



Answer: A
Objective: (9.6) Use Both Properties to Solve Inequalities

Determine whether the ordered pair is a solution of the given linear equation.

107) $2x - 5y = 13; (-1, 3)$ 107) _____

A) no B) yes

Answer: A
Objective: (10.1) Determine whether an ordered pair is a solution of an equation in two variables.

108) $-2y + 3x = -15; (5, 0)$ 108) _____

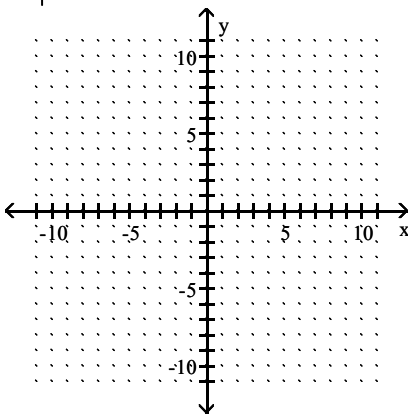
A) no B) yes

Answer: A
Objective: (10.1) Determine whether an ordered pair is a solution of an equation in two variables.

Find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.

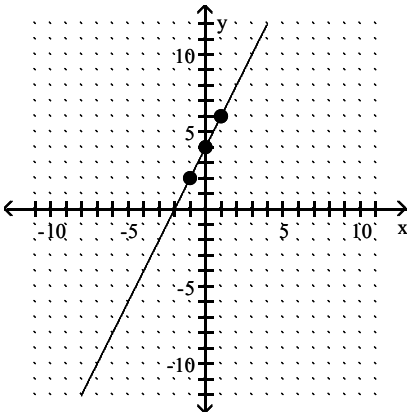
109) y = 2x + 4 109) _____

x	y
0	
1	
–1	



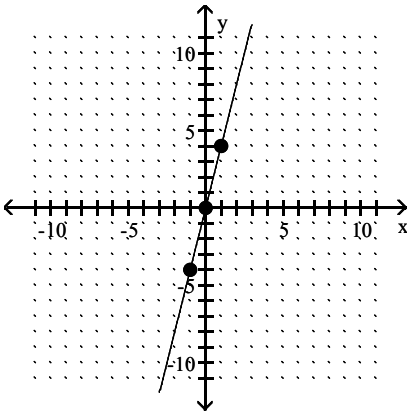
A)

x	y
0	4
1	6
–1	2



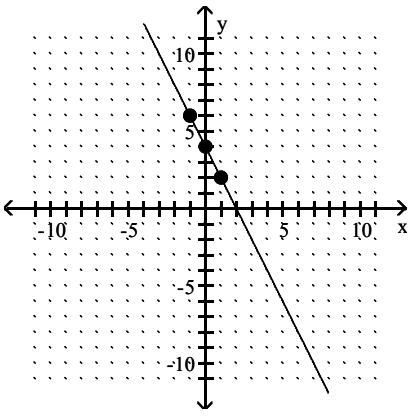
B)

x	y
0	0
1	4
–1	–4



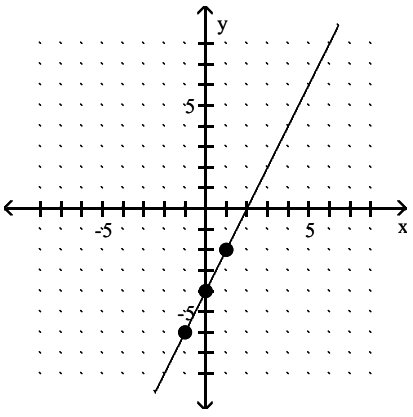
C)

x	y
0	4
1	2
–1	6



D)

x	y
0	–4
1	–2
–1	–6

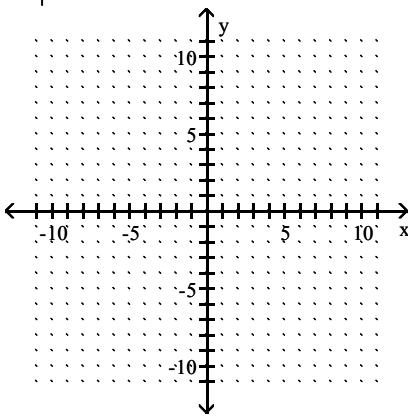


Answer: A

Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

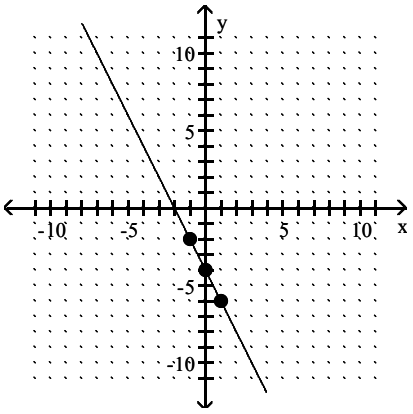
110) $y = -2x - 4$ 110) _____

x	y
0	
1	
−1	



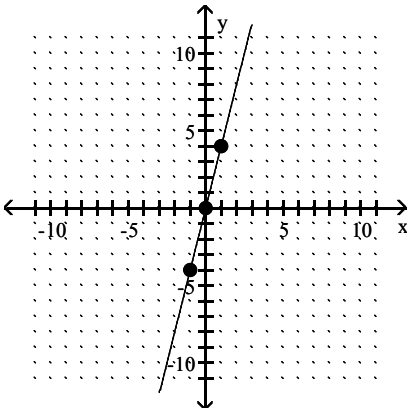
A)

x	y
0	−4
1	−6
−1	−2



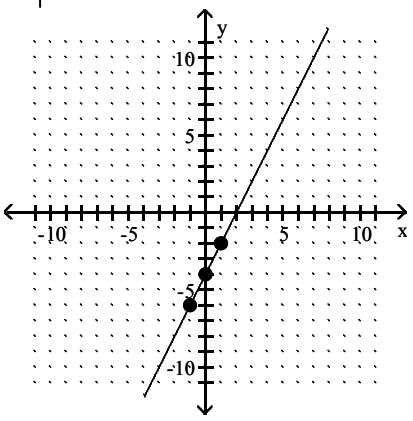
B)

x	y
0	0
1	4
−1	−4



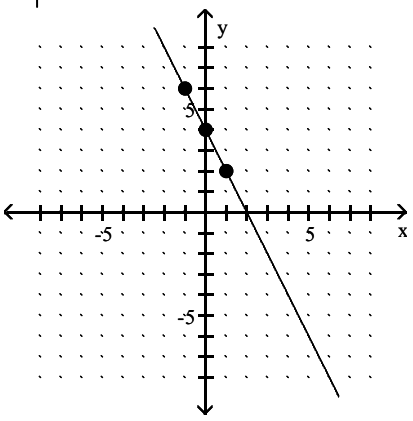
C)

x	y
0	−4
1	−2
−1	−6



D)

x	y
0	4
1	2
−1	6

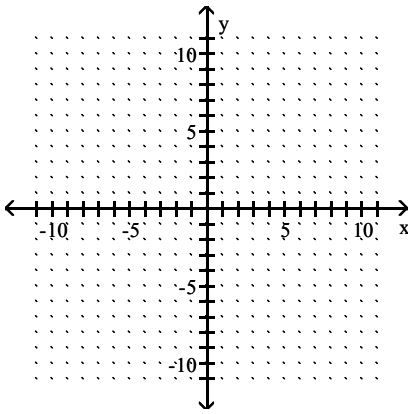


Answer: A

Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

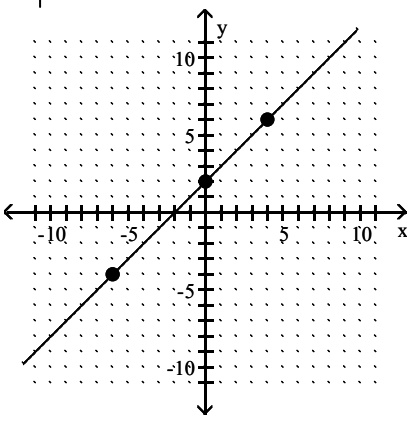
111) $y = x + 2$ 111) _____

x	y
4	
−6	
0	



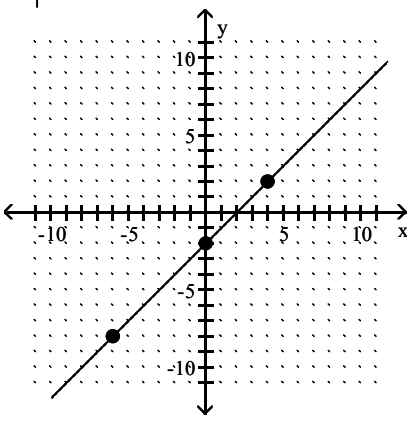
A)

x	y
4	6
−6	−4
0	2



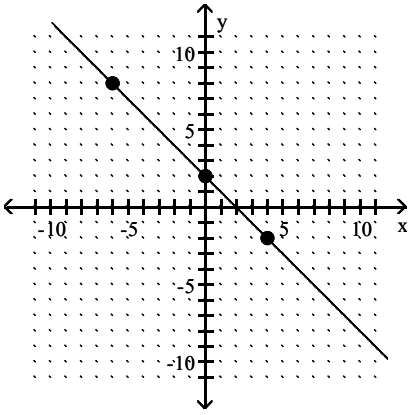
B)

x	y
4	2
−6	−8
0	−2



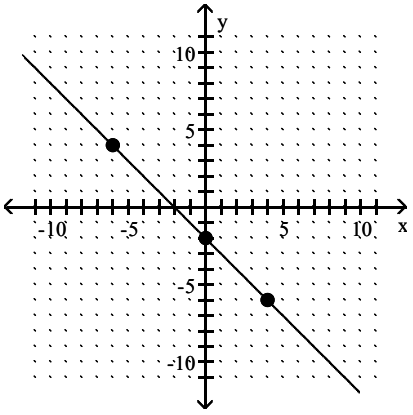
C)

x	y
4	−2
−6	8
0	2



D)

x	y
4	−6
−6	4
0	−2

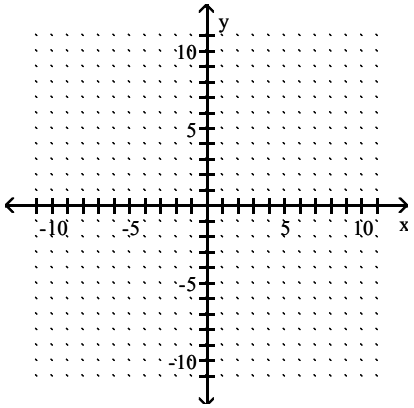


Answer: A

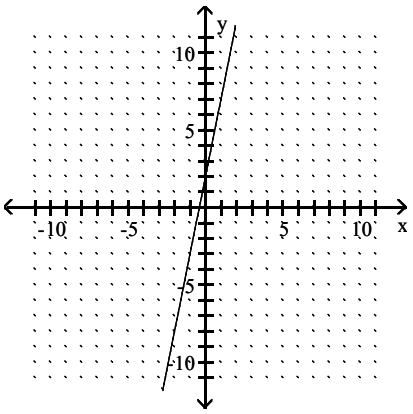
Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

Graph the linear equation.

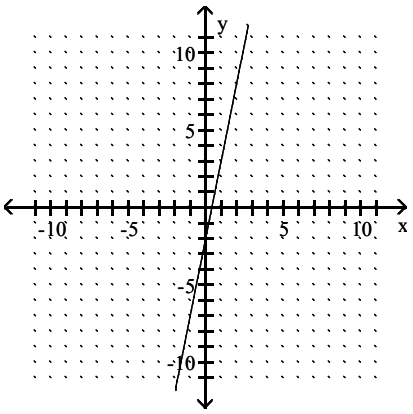
112) $5y - 25x = 10$ 112) _____



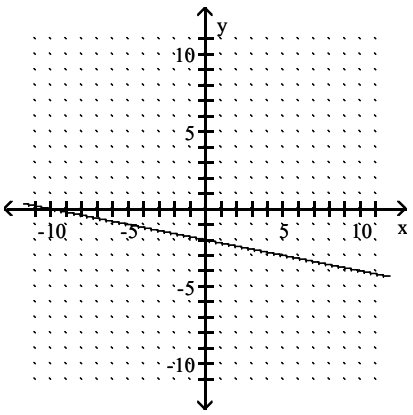
A)



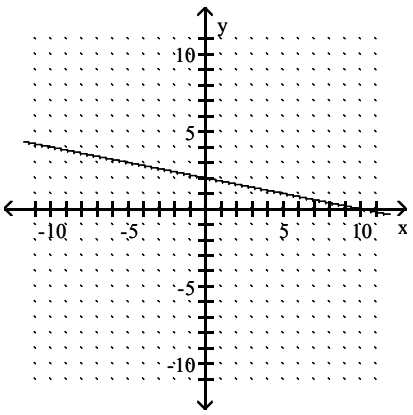
B)



C)



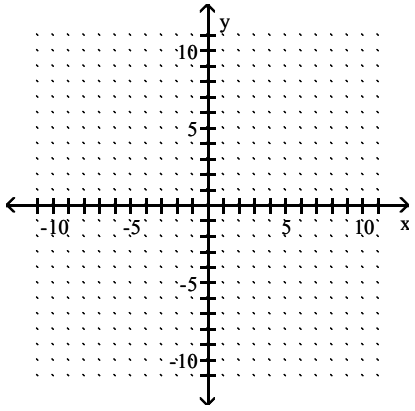
D)



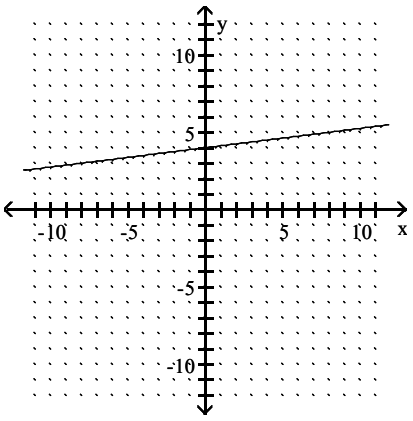
Answer: A

Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

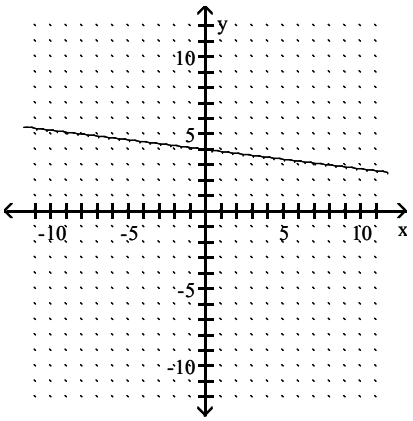
113) $y = \frac{1}{8}x + 4$ 113) _____



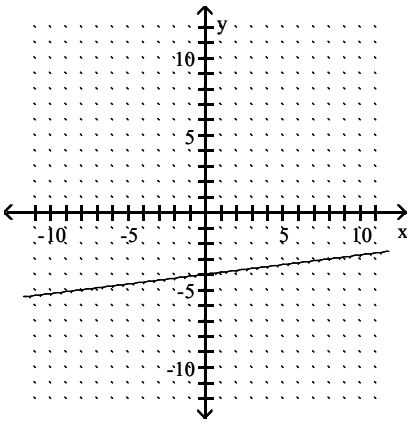
A)



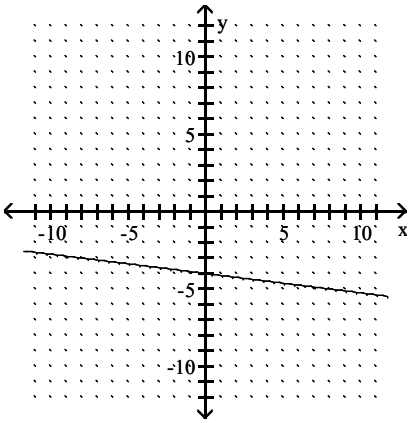
B)



C)



D)



Answer: A
Objective: (10.2) Graph a linear equation by finding and plotting ordered pair solutions.

Find the slope of the line that passes through the given points.

114) (8, 5) and (6, 9) 114) _____

A) – 2 B) $-\frac{1}{2}$ C) 1 D) 2

Answer: A
Objective: (10.4) Find the slope of a line given two points of the line.

115) (–4, –5) and (17, 10) 115) _____

A) $\frac{5}{7}$ B) $\frac{7}{5}$ C) $\frac{5}{13}$ D) $-\frac{5}{7}$

Answer: A
Objective: (10.4) Find the slope of a line given two points of the line.

Determine whether the pair of lines is parallel, perpendicular, or neither.

116) $y = -5x + 1$ 116) _____
$y = 5x - 8$

A) parallel B) perpendicular C) neither

Answer: C
Objective: (10.4) Compare the slopes of parallel and perpendicular lines.

117) $y = \frac{5}{2}x + 2$ 117) _____

$y = -\frac{2}{5}x + 5$

A) parallel B) perpendicular C) neither

Answer: B

Objective: (10.4) Compare the slopes of parallel and perpendicular lines.

118) $9x + 3y = 12$ 118) _____

$27x + 9y = 38$

A) parallel B) perpendicular C) neither

Answer: A

Objective: (10.4) Compare the slopes of parallel and perpendicular lines.

Find an equation of the line described. Write the equation in slope –intercept form if possible.

119) Slope 2, through (5, 2) 119) _____

A) $y = 2x - 8$ B) $y = 2x + 8$ C) $x = 2y - 8$ D) $x = 2y + 8$

Answer: A

Objective: (10.5) Use the point–slope form to find an equation of a line given its slope and a point of the line.

120) Slope –3, through (–2, 3) 120) _____

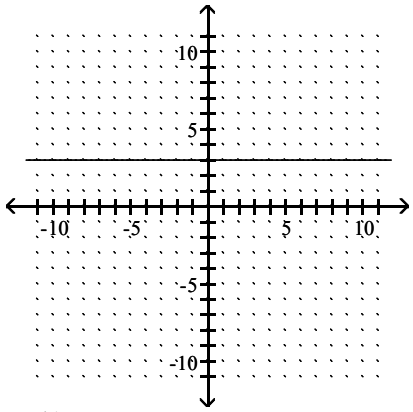
A) $y = -3x - 3$ B) $y = -3x + 3$ C) $x = -3y - 3$ D) $x = -3y + 3$

Answer: A

Objective: (10.5) Use the point–slope form to find an equation of a line given its slope and a point of the line.

Determine whether the graph is the graph of a function.

121) 121) _____

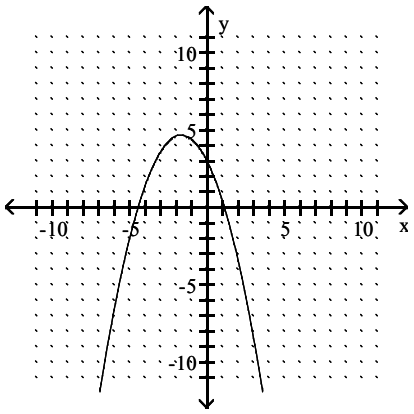


A) yes B) no

Answer: A

Objective: (10.6) Use the vertical line test.

122) 122) _____

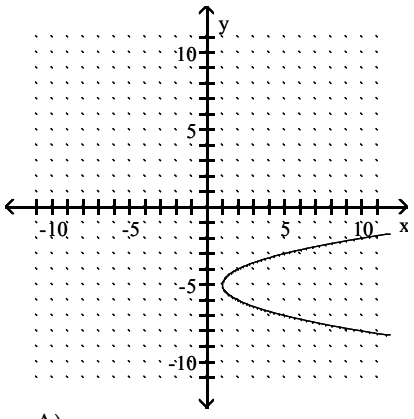


A) yes B) no

Answer: A

Objective: (10.6) Use the vertical line test.

123) 123) _____

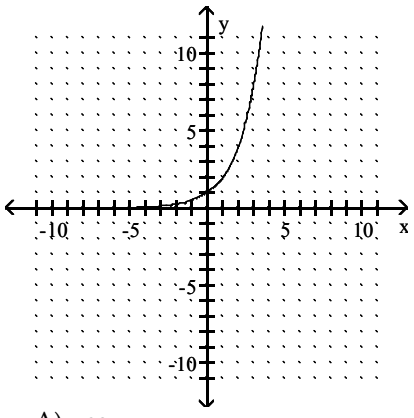


A) yes B) no

Answer: B

Objective: (10.6) Use the vertical line test.

124) 124) _____



A) yes B) no

Answer: A

Objective: (10.6) Use the vertical line test.

Evaluate the function.

125) Find f(4) when $f(x) = x^2 + 4x - 3$. 125) _____

A) 29 B) 35 C) 3 D) –3

Answer: A

Objective: (10.6) Use function notation.

126) Find f(0) when $f(x) = x^2 + 4x + 4$. 126) _____

A) 4 B) –4 C) 0 D) 16

Answer: A

Objective: (10.6) Use function notation.

127) Find f(–3) when $f(x) = 3x^2 + 3x - 6$. 127) _____

A) 12 B) 30 C) 24 D) 27

Answer: A

Objective: (10.6) Use function notation.

128) Find f(19) when $f(x) = |x - 1|$ 128) _____

A) 18 B) –20 C) 20 D) –18

Answer: A

Objective: (10.6) Use function notation.

Solve the system of equations by the substitution method.

129) $\begin{cases} x + y = 56 \\ y = -9x \end{cases}$ 129) _____

A) (–7, 63) B) (63, –7)

C) infinite number of solutions D) no solution

Answer: A

Objective: (11.2) Use the substitution method to solve a system of linear equations.

130) $\begin{cases} -2x + y = -10 \\ -3x + 3y = -18 \end{cases}$ 130) _____

A) (4, –2) B) (5, –3) C) (–2, 4) D) no solution

Answer: A

Objective: (11.2) Use the substitution method to solve a system of linear equations.

Solve the system of equations by the addition method.

131) $\begin{cases} 5x + y = -58 \\ 5x - y = 8 \end{cases}$ 131) _____

A) (–5, –33) B) (–33, –5)

C) infinite number of solutions D) no solution

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

132) $\begin{cases} -2x + 3y = 2 \\ -3x + 5y = 2 \end{cases}$ 132) _____

A) (– 4, – 2) B) (– 2, – 4)

C) infinite number of solutions D) no solution

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

133) $\begin{cases} x + y = 7 \\ x + y = 4 \end{cases}$ 133) _____

A) no solution B) (0, 0) C) (7, 4) D) (0, 11)

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

134) $\begin{cases} -2x + 2y = -5 \\ 6x - 6y = 15 \end{cases}$ 134) _____

A) infinite number of solutions B) (0, 0)

C) (–2, 2) D) no solution

Answer: A

Objective: (11.3) Use the addition method to solve a system of linear equations.

Perform the indicated operation.

135) $(14x + 5) - (-13x^2 - 7x + 5)$ 135) _____

A) $13x^2 + 21x$ B) $13x^2 + 21x - 10$ C) $-13x^2 + 7x + 10$ D) $13x^2 - 21x$

Answer: A

Objective: (12.2) Add and subtract polynomials.

136) $(20x^2 - 16) - (2x^2 - 6)$ 136) _____

A) $18x^2 - 10$ B) $18x^2 - 22$ C) $22x^2 - 22$ D) $22x^2 - 10$

Answer: A

Objective: (12.2) Add and subtract polynomials.

Multiply.

137) $(5.6x^6)(4x^5)$ 137) _____

A) $224x^{30}$ B) $22.4x^{11}$ C) $2.24x^{11}$ D) $22.4x^{30}$

Answer: B

Objective: (12.3) Multiply monomials.

138) $9x(-8x + 11)$ 138) _____

A) $-72x^2 + 99x$ B) $-8x^2 + 99x$ C) $-72x^2 + 11x$ D) $27x^2$

Answer: A

Objective: (12.3) Use the distributive property to multiply polynomials.

139) $6x^2(-2x^2 + 2x + 6)$ 139) _____

A) $-12x^4 + 12x^3 + 36x^2$ B) $-12x^4 + 12x^2 + 36$

C) $4x^4 + 8x + 12$ D) $-12x^4 + 12x + 36$

Answer: A

Objective: (12.3) Use the distributive property to multiply polynomials.

140) $(a + 8)(a + 1)$ 140) _____

A) $2a + 8$ B) $a^2 + 9a + 9$ C) $a^2 + 9a + 8$ D) $2a^2 + 8$

Answer: C

Objective: (12.3) Use the distributive property to multiply polynomials.

141) $(x - 4)(x - 6)$ 141) _____

A) $x^2 + 10x - 24$ B) $x^2 - 10x + 24$ C) $2x^2 - 24$ D) $2x + 24$

Answer: B

Objective: (12.3) Use the distributive property to multiply polynomials.

142) $(9z + 11)^2$ 142) _____

A) $81z^2 + 121$ B) $9z^2 + 198z + 121$

C) $9z^2 + 121$ D) $81z^2 + 198z + 121$

Answer: D

Objective: (12.3) Use the distributive property to multiply polynomials.

143) $(6x - 4)(3x - 12)$ 143) _____

A) $18x^2 - 84x - 84$ B) $9x^2 - 84x - 84$ C) $9x^2 - 84x + 48$ D) $18x^2 - 84x + 48$

Answer: D

Objective: (12.3) Use the distributive property to multiply polynomials.

144) $(b - 5)(b^2 + 5b + 3)$ 144) _____

A) $b^3 + 28b + 15$ B) $b^3 - 22b - 15$

C) $b^3 - 10b^2 - 22b - 15$ D) $b^3 + 10b^2 + 22b + 15$

Answer: B

Objective: (12.3) Use the distributive property to multiply polynomials.

145) $(x + 1)(x^2 - x + 1)$ 145) _____

A) $x^3 - 1$ B) $x^3 - 2x^2 - 2x - 1$

C) $x^3 + 1$ D) $x^3 + 2x^2 + 2x + 1$

Answer: C

Objective: (12.3) Use the distributive property to multiply polynomials.

Multiply vertically.

146) $(2x + 3)(6x + 5)$ 146) _____

A) $12x^2 + 15$ B) $8x^2 + 8$ C) $12x^2 + 28x + 15$ D) $12x^2 - 8x + 15$

Answer: C

Objective: (12.3) Multiply polynomials vertically.

147) $(6x - 1)(x^2 - 4x + 1)$ 147) _____

A) $6x^3 - 23x^2 + 2x - 1$ B) $6x^3 - 25x^2 + 10x - 1$

C) $6x^3 - 24x^2 + 6x + 1$ D) $6x^3 + 25x^2 - 10x + 1$

Answer: B

Objective: (12.3) Multiply polynomials vertically.

Multiply using the FOIL method.

148) $(x + 4)(x + 9)$ 148) _____

A) $x^2 + 13x + 13$ B) $2x^2 + 36$ C) $2x + 36$ D) $x^2 + 13x + 36$

Answer: D

Objective: (12.4) Multiply two binomials using the FOIL method.

149) $(x - 10)(x + 7)$ 149) _____

A) $x^2 - 3x - 70$ B) $2x^2 + 70$ C) $x^2 + 3x + 70$ D) $2x - 70$

Answer: A

Objective: (12.4) Multiply two binomials using the FOIL method.

150) $(x - 11y)(x + 3y)$ 150) _____

A) $x - 8xy - 33y$ B) $x^2 - 8xy - 8y^2$

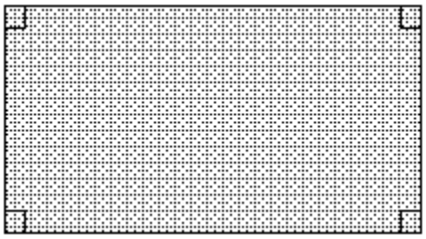
C) $x^2 - 8xy - 33y^2$ D) $x^2 - 11xy - 33y^2$

Answer: C

Objective: (12.4) Multiply two binomials using the FOIL method.

Find the area of the shaded rectangle.

151) 151) _____



A) $(14x^2 + 90x - 100)$ sq in. B) $(14x^2 - 70x - 100)$ sq in.

C) $(14x^2 - 50x + 100)$ sq in. D) $(14x^2 - 50x - 100)$ sq in.

Answer: D

Objective: (12.4) Multiply two binomials using the FOIL method.

Multiply.

152) $(3a - 7)^2$ 152) _____

A) $9a^2 - 42a + 49$ B) $9a^2 + 49$ C) $3a^2 - 42a + 49$ D) $3a^2 + 49$

Answer: A

Objective: (12.4) Square a binomial.

153) $(x + 11)(x - 11)$ 153) _____

A) $x^2 - 121$ B) $x^2 - 22$ C) $x^2 - 22x - 121$ D) $x^2 + 22x - 121$

Answer: A

Objective: (12.4) Multiply the sum and difference of two terms.

154) $(13p + 6)(13p - 6)$ 154) _____

A) $169p^2 - 36$ B) $p^2 - 36$

C) $169p^2 - 156p - 36$ D) $169p^2 + 156p - 36$

Answer: A

Objective: (12.4) Multiply the sum and difference of two terms.

Simplify the expression. Write the result using positive exponents only.

155) $(-5x^4y^{-5})(3x^{-1}y)$ 155) _____

A) $\frac{-15x^3}{y^4}$ B) $-15x^3y^6$ C) $\frac{-2x^3}{y^4}$ D) $\frac{-15x^5}{y^6}$

Answer: A
Objective: (12.5) Use all the rules and definitions for exponents to simplify exponential expressions.

156) $\frac{2^{-7}x^{-5}y^3}{2^{-4}x^{-8}y^6}$ 156) _____

A) $\frac{x^3}{8y^3}$ B) $\frac{1}{8x^8y^3}$ C) $\frac{3x^3}{y^3}$ D) $\frac{8}{x^3y^3}$

Answer: A
Objective: (12.5) Use all the rules and definitions for exponents to simplify exponential expressions.

Find the quotient using long division.

157) $\frac{x^2 + 6x + 8}{x + 4}$ 157) _____

A) $x + 2$ B) $x - 4$ C) $x^2 + 2$ D) $x^3 - 4$

Answer: A
Objective: (12.6) Use long division to divide a polynomial by another polynomial.

158) $\frac{5m^2 + 5m - 10}{m + 2}$ 158) _____

A) $5m - 5$ B) $5m + 5$ C) $m - 5$ D) $5m - 5 + \frac{7}{m - 5}$

Answer: A
Objective: (12.6) Use long division to divide a polynomial by another polynomial.

159) $\frac{p^2 + 5p - 10}{p + 7}$ 159) _____

A) $p - 2 + \frac{4}{p + 7}$ B) $p - 2$ C) $p + 2 + \frac{4}{p + 7}$ D) $p - 4 + \frac{2}{p + 7}$

Answer: A
Objective: (12.6) Use long division to divide a polynomial by another polynomial.

160) $\frac{x^2 + 9x + 6}{x + 2}$ 160) _____

A) $x + 7 - \frac{8}{x + 2}$ B) $x + 7 + \frac{8}{x + 2}$ C) $\frac{x + 7}{x + 2}$ D) $x + 8$

Answer: A
Objective: (12.6) Use long division to divide a polynomial by another polynomial.

Use synthetic division to divide.

161) $(x^2 + 5x - 36) \div (x - 4)$ 161) _____

A) $x + 9$ B) $x - 9$ C) $x - 9 - \frac{72}{x - 4}$ D) $x + 9 - \frac{72}{x - 4}$

Answer: A
Objective: (12.7) Use synthetic division to divide a polynomial by a binomial.

162) $(x^2 + 15x + 52) \div (x + 6)$ 162) _____

A) $x + 9 - \frac{2}{x + 6}$ B) $x + 9 + \frac{2}{x + 6}$ C) $\frac{x + 9}{x + 6}$ D) $x + 10$

Answer: A
Objective: (12.7) Use synthetic division to divide a polynomial by a binomial.

Factor out the GCF from the polynomial.

163) $30x + 10$ 163) _____

A) $5(6x + 2)$ B) $2(15x + 5)$ C) $10(3x + 1)$ D) $10(3x)$

Answer: C
Objective: (13.1) Factor out the greatest common factor from a polynomial.

164) $20x^4y + 36xy^3$ 164) _____

A) $4x(5x^3y + 9y^3)$ B) $4y(5x^4 + 9xy^2)$ C) $4xy(5x^3 + 9y^2)$ D) $xy(20x^3 + 36y^2)$

Answer: C
Objective: (13.1) Factor out the greatest common factor from a polynomial.

165) $x(y + 3) + 10(y + 3)$ 165) _____

A) $3y(x + 10)$ B) $(y + 3)(x + 10)$
C) $(xy + 3x) + (10y + 30)$ D) $10x(y + 3)$

Answer: B
Objective: (13.1) Factor out the greatest common factor from a polynomial.

166) $w(z - 15) - 7(z - 15)$ 166) _____

A) $(z - 15)(w + 7)$ B) $(wz - 15w) - (7z - 105)$
C) $-7w(z - 15)$ D) $(z - 15)(w - 7)$

Answer: D
Objective: (13.1) Factor out the greatest common factor from a polynomial.

Factor the four–term polynomial by grouping.

167) $2x + 24 + xy + 12y$ 167) _____

A) $(x + 12y)(2 + y)$ B) $(y + 12)(x + 2)$ C) $(y + 12)(2x + y)$ D) $(x + 12)(2 + y)$

Answer: D
Objective: (13.1) Factor a polynomial by grouping.

168) $3xy - 9x + 7y - 21$ 168) _____

A) $(3x + 7)(y - 3)$ B) $(3x - 3)(y + 7)$ C) $(3x + 7y)(y - 3)$ D) $(3x + y)(7y - 3)$

Answer: A
Objective: (13.1) Factor a polynomial by grouping.

Factor the trinomial completely. If the polynomial cannot be factored, write "prime."

169) $x^2 - x - 42$ 169) _____

A) $(x + 7)(x - 6)$ B) prime C) $(x + 6)(x - 7)$ D) $(x + 1)(x - 42)$

Answer: C

Objective: (13.2) Factor trinomials of the form x^2 + bx + c.

170) $x^2 + x - 30$ 170) _____

A) $(x + 1)(x - 30)$ B) $(x - 5)(x + 6)$ C) prime D) $(x - 6)(x + 5)$

Answer: B

Objective: (13.2) Factor trinomials of the form x^2 + bx + c.

171) $x^2 - 3x - 88$ 171) _____

A) $(x - 88)(x + 1)$ B) $(x - 11)(x + 8)$ C) prime D) $(x + 11)(x - 8)$

Answer: B

Objective: (13.2) Factor trinomials of the form x^2 + bx + c.

172) $u^2 - 3uv - 28v^2$ 172) _____

A) $(u + 4v)(u - 7v)$ B) $(u - 4v)(u + v)$ C) $(u - 4v)(u + 7v)$ D) prime

Answer: A

Objective: (13.2) Factor trinomials of the form x^2 + bx + c.

173) $x^2 + 3xy - 18y^2$ 173) _____

A) $(x - 6y)(x + 3y)$ B) $(x + 6y)(x - 3y)$ C) $(x - 6y)(x + y)$ D) $(x - y)(x + 3y)$

Answer: B

Objective: (13.2) Factor trinomials of the form x^2 + bx + c.

Factor the binomial completely.

174) $z^2 - 121$ 174) _____

A) prime B) $(z - 11)^2$ C) $(z + 11)(z - 11)$ D) $(z + 11)^2$

Answer: C

Objective: (13.5) Factor the difference of two squares.

175) $81x^2 - 49$ 175) _____

A) $(9x - 7)^2$ B) prime C) $(9x + 7)^2$ D) $(9x + 7)(9x - 7)$

Answer: D

Objective: (13.5) Factor the difference of two squares.

176) $121 - w^2$ 176) _____

A) $(11 - w)(11 + w)$ B) $(11 - w)^2$ C) $(11 + w)^2$ D) prime

Answer: A

Objective: (13.5) Factor the difference of two squares.

Solve the equation.

177) $(x - 6)(x + 4) = 0$ 177) _____

A) 6, −6, 4, −4 B) 6, −4 C) −6, 4 D) 6, 4

Answer: B

Objective: (13.6) Solve quadratic equations by factoring.

178) $(2x + 1)(5x - 3) = 0$ 178) _____

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

Answer: B
Objective: (13.6) Solve quadratic equations by factoring.

179) $(2y + 29)(7y + 15) = 0$ 179) _____

A) $\frac{29}{2}, \frac{15}{7}$ B) 27, 8 C) $-\frac{29}{2}, -\frac{15}{7}$ D) $-\frac{2}{27}, -\frac{7}{15}$

Answer: C
Objective: (13.6) Solve quadratic equations by factoring.

180) $4x(8x - 3) = 0$ 180) _____

A) $\frac{3}{8}, \frac{1}{4}$ B) $\frac{3}{8}, 0$ C) $-\frac{3}{8}, 0$ D) $\frac{3}{8}, \frac{1}{4}, 0$

Answer: B
Objective: (13.6) Solve quadratic equations by factoring.

181) $x^2 + 2x - 80 = 0$ 181) _____

A) –10, 8 B) 10, 8 C) –10, 1 D) 10, –8

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

182) $x^2 - 7x - 18 = 0$ 182) _____

A) 9, – 2 B) –9, 2 C) –9, – 2 D) –18, 0

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

183) $x^2 - x = 72$ 183) _____

A) –8, 9 B) 8, 9 C) 1, 72 D) –8, –9

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

184) $x^2 + 3x = 28$ 184) _____

A) –7, 4 B) 7, 4 C) –7, 1 D) 7, –4

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

185) $x^2 - 2x = 48$ 185) _____

A) 8, –6 B) 8, 6 C) –8, 1 D) –8, 6

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

186) $x(5x + 8) = 4$ 186) _____

A) $\frac{2}{5}, -2$ B) $0, -\frac{8}{5}$ C) $\frac{5}{2}, 2$ D) $0, \frac{8}{5}$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

187) $2x^2 - 7x - 9 = 0$ 187) _____

A) $\frac{9}{2}, -1$ B) $\frac{2}{9}, -1$ C) $\frac{2}{9}, 1$ D) $\frac{2}{9}, 0$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

188) $x^2 - 36 = 35x$ 188) _____

A) $-1, 36$ B) $-6, 6$ C) $1, -36$ D) $-6, -6$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

189) $15x^2 - 8x = 0$ 189) _____

A) $\frac{8}{15}, 0$ B) $\frac{15}{8}, 0$ C) $-\frac{8}{15}, 0$ D) $-\frac{15}{8}, 0$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

190) $9x^2 - 16 = 0$ 190) _____

A) $\frac{4}{3}, -\frac{4}{3}$ B) $\frac{4}{3}$ C) $-\frac{4}{3}$ D) $\frac{4}{3}, -\frac{4}{3}, 0$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

191) $16x^2 - 11 = 40x$ 191) _____

A) $\frac{11}{4}, -\frac{1}{4}$ B) $\frac{11}{16}, -\frac{1}{16}$ C) $-\frac{11}{4}, \frac{1}{4}$ D) $-\frac{1}{16}, -\frac{5}{8}$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

192) $3x^2 + 21x + 36 = 0$ 192) _____

A) $-4, -3$ B) $-\frac{1}{2}, \frac{1}{2}$ C) $3, 4$ D) $7, 8$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

193) $15x^2 + 31x + 1 = -9$ 193) _____

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

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

194) $(x + 6)(x + 1) = 24$ 194) _____

A) $-9, 2$ B) $-6, -1$ C) $-2, 9$ D) $1, 6$

Answer: A
Objective: (13.6) Solve quadratic equations by factoring.

195) $10x^3 + 70x^2 + 120x = 0$ 195) _____

A) 0, –3, –4 B) –3, –4 C) 0, 3, 4 D) $-\frac{1}{3}$, –4

Answer: A
Objective: (13.6) Solve equations with degree greater than 2 by factoring.

196) $y^3 + 6y^2 + 9y = 0$ 196) _____

A) 0, –3 B) 0, 3 C) 3, –3 D) 0, –3, 3

Answer: A
Objective: (13.6) Solve equations with degree greater than 2 by factoring.

197) $(3x + 2)(9x^2 + 12x + 4) = 0$ 197) _____

A) $-\frac{2}{3}$ B) $-\frac{2}{3}$, 0 C) $-\frac{2}{3}$, 3, –2 D) $-\frac{2}{3}$, 3, –2, 0

Answer: A
Objective: (13.6) Solve equations with degree greater than 2 by factoring.

198) $9x^3 - 16x = 0$ 198) _____

A) $\frac{4}{3}, -\frac{4}{3}, 0$ B) $\frac{4}{3}$ C) $-\frac{4}{3}$ D) $\frac{4}{3}, -\frac{4}{3}$

Answer: A
Objective: (13.6) Solve equations with degree greater than 2 by factoring.

199) $25x^3 - 30x^2 + 8x = 0$ 199) _____

A) $\frac{4}{5}, \frac{2}{5}, 0$ B) $\frac{4}{25}, \frac{2}{25}$ C) $-\frac{4}{5}, -\frac{2}{5}, 0$ D) $\frac{2}{25}, \frac{6}{25}$

Answer: A
Objective: (13.6) Solve equations with degree greater than 2 by factoring.

200) $3x^3 - 4x^2 - 7x = 0$ 200) _____

A) $\frac{7}{3}$, –1, 0 B) $\frac{3}{7}$, –1, 0 C) $\frac{3}{7}$, 1 D) $\frac{3}{7}$, 0

Answer: A
Objective: (13.6) Solve equations with degree greater than 2 by factoring.

Find the product and simplify.

201) $\frac{2x^2}{4} \cdot \frac{24}{x^3}$ 201) _____

A) $\frac{12}{x}$ B) $\frac{x}{12}$ C) $\frac{12x^2}{x^3}$ D) $\frac{48x^2}{4x^3}$

Answer: A
Objective: (14.2) Multiply rational expressions.

202) $\frac{2y}{4y+2} \cdot \frac{10y+5}{7}$ 202) _____

A) $\frac{5y}{7}$ B) $\frac{5}{7}$ C) $\frac{5y}{14}$ D) $\frac{y}{7}$

Answer: A
Objective: (14.2) Multiply rational expressions.

203) $\frac{z^2-m^2}{z+m} \cdot \frac{z}{z^2-zm}$ 203) _____

A) 1 B) $-\frac{1}{z}$ C) z D) –z

Answer: A
Objective: (14.2) Multiply rational expressions.

Find the quotient and simplify.

204) $\frac{2x^{13}}{7x^6} \div \frac{4x}{14x^3}$ 204) _____

A) x^9 B) $\frac{4x^5}{49}$ C) $\frac{2x^9}{7}$ D) $\frac{8x^5}{98}$

Answer: A
Objective: (14.2) Divide rational expressions.

205) $\frac{x^2-y^2}{x+y} \div \frac{x}{x^2-xy}$ 205) _____

A) $(x-y)^2$ B) $(x+y)$ C) $(x+y)^2$ D) $(x-y)(x+y)$

Answer: A
Objective: (14.2) Divide rational expressions.

Perform the indicated operation. Simplify if possible.

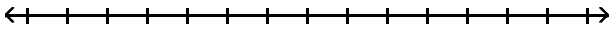
206) $\frac{x^2-8x}{x-6} + \frac{12}{x-6}$ 206) _____

A) x – 2 B) x + 6 C) x + 2 D) x – 6

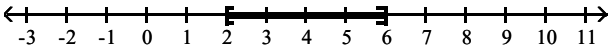
Answer: A
Objective: (14.3) Add and subtract rational expressions with the same denominator.

Solve the compound inequality. Graph the solution set.

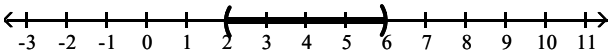
207) $13 \le 4t + 5 \le 29$ 207) _____



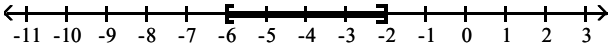
A) [2, 6]



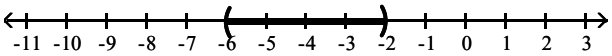
B) (2, 6)



C) [−6, −2]

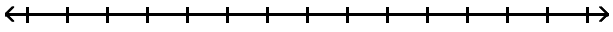


D) (−6, −2)

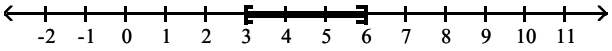


Answer: A
Objective: (16.1) Solve compound inequalities containing "and."

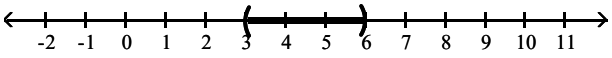
208) $-25 \le -4z - 1 \le -13$ 208) _____



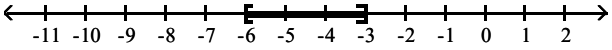
A) [3, 6]



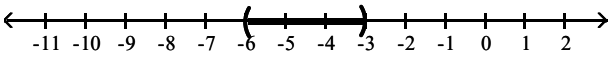
B) (3, 6)



C) [−6, −3]



D) (−6, −3)



Answer: A
Objective: (16.1) Solve compound inequalities containing "and."

Solve the absolute value equation.

209) $|x + 3| = 6$ 209) _____

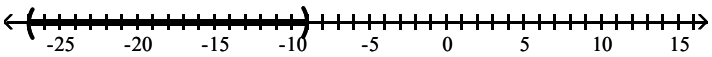
A) −9, 3 B) 9, 3 C) −3 D) ∅

Answer: A
Objective: (16.2) Solve absolute value equations.

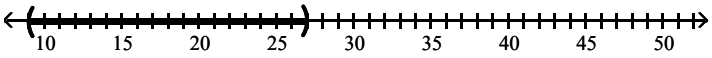
Solve the inequality. Graph the solution set.

210) $|x + 18| < 9$ 210) _____

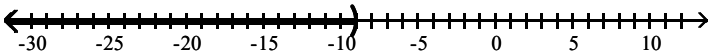
A) (–27, –9)



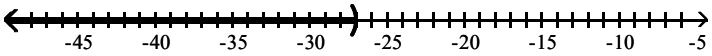
B) (9, 27)



C) (–∞, –9)



D) (–∞, –27)

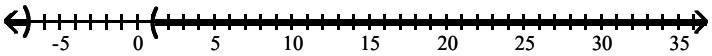


Answer: A

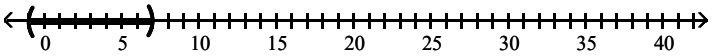
Objective: (16.3) Solve absolute value inequalities of the form $|X| < a$.

211) $|x + 3| > 4$ 211) _____

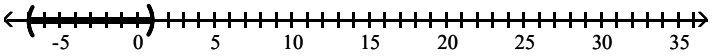
A) (–∞, –7) ∪ (1, ∞)



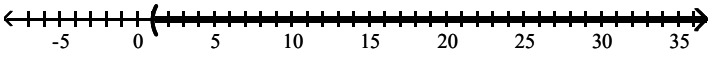
B) (–1, 7)



C) (–7, 1)



D) (1, ∞)



Answer: A

Objective: (16.3) Solve absolute value inequalities of the form $|X| > a$.

Find the square root. Assume that all variables represent positive real numbers.

212) $\sqrt{25}$ 212) _____

A) 5 B) 6

C) 12 D) not a real number

Answer: A

Objective: (17.1) Find square roots.

213) $\sqrt{16x^{10}}$ 213) _____

A) $4x^5$ B) $4x^{10}$ C) $16x^5$ D) $4x^2$

Answer: A

Objective: (17.1) Find square roots.

Evaluate.

214) If $f(x) = \sqrt{2x - 5}$, find the value of f(13). 214) _____

A) $\sqrt{21}$ B) 21 C) 26 D) $\sqrt{26}$

Answer: A

Objective: (17.1) Find function values of square and cube roots.

215) If $f(x) = \sqrt{2x + 7}$, find the value of f(37). 215) _____

A) 9 B) 81 C) 74 D) $\sqrt{74}$

Answer: A

Objective: (17.1) Find function values of square and cube roots.

216) If $f(x) = \sqrt[3]{x + 36}$, find the value of f(−9). 216) _____

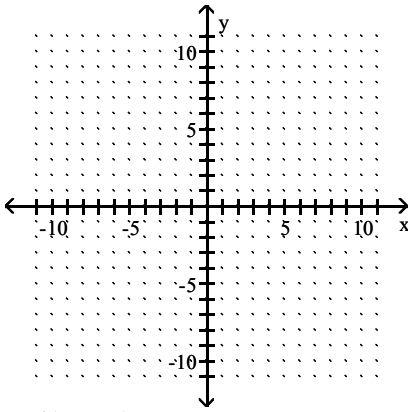
A) 3 B) $3\sqrt[3]{3}$ C) −3 D) $3\sqrt{3}$

Answer: A

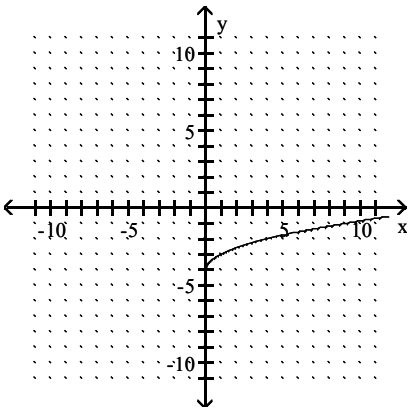
Objective: (17.1) Find function values of square and cube roots.

Identify the domain and then graph the function.

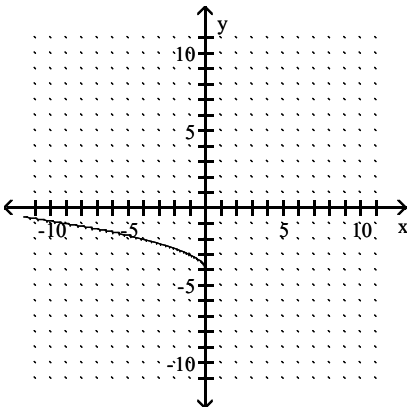
217) $f(x) = \sqrt{x} - 4$ 217) _____



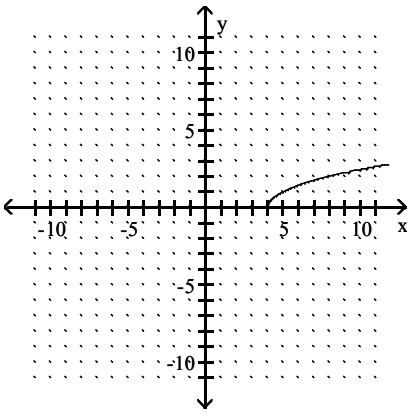
A) [0, ∞)



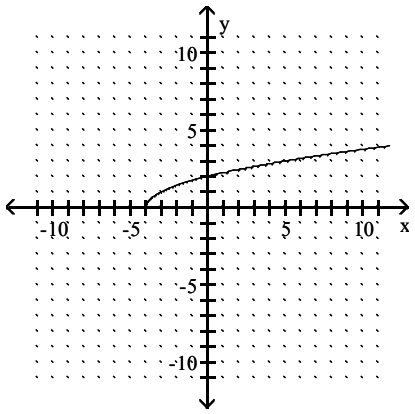
B) (−∞, 0]



C) [4, ∞)



D) [−4, ∞)



Answer: A
Objective: (17.1) Graph square and cube root functions.

Use radical notation to write the expression. Simplify if possible.

218) $256^{1/4}$ 218) _____

A) 4 B) 16 C) 64 D) 1024

Answer: A
Objective: (17.2) Understand the meaning of a^(1/n).

219) $8^{4/3}$ 219) _____

A) 16 B) 64 C) 32 D) 128

Answer: A
Objective: (17.2) Understand the meaning of a^(m/n).

Simplify the radical expression. Assume that all variables represent positive real numbers.

220) $\sqrt{20}$ 220) _____

A) $2\sqrt{5}$ B) $5\sqrt{2}$ C) 10 D) 4

Answer: A
Objective: (17.3) Simplify radicals.

221) $\sqrt{320k^7q^8}$ 221) _____

A) $8k^3q^4\sqrt{5k}$ B) $8k^7q^8\sqrt{5k}$ C) $8k^3q^4\sqrt{5}$ D) $8q^4\sqrt{5k^7}$

Answer: A
Objective: (17.3) Simplify radicals.

222) $\sqrt[3]{512x^4y^5}$ 222) _____

A) $8xy\sqrt[3]{xy^2}$ B) $5xy\sqrt[3]{xy^2}$ C) $8xy\sqrt[3]{xy}$ D) $8xy\sqrt{xy^2}$

Answer: A
Objective: (17.3) Simplify radicals.

223) $\sqrt[3]{8x^4y^5}$ 223) _____

A) $2xy\sqrt[3]{xy^2}$ B) $3xy\sqrt[3]{xy^2}$ C) $2xy\sqrt[3]{xy}$ D) $2xy\sqrt{xy^2}$

Answer: A
Objective: (17.3) Simplify radicals.

Find the distance between the pair of points.

224) (–4, 2) and (–12, –4) 224) _____

A) 10 units B) 100 units C) 11 units D) 20 units

Answer: A
Objective: (17.3) Use the distance and midpoint formula.

Find the midpoint of the line segment whose endpoints are given.

225) (4, –8), (0, 4) 225) _____

A) $(2, -2)$ B) $(2, -6)$ C) (4, –12) D) (4, –4)

Answer: A
Objective: (17.3) Use the distance and midpoint formula.

Solve.

226) $\sqrt{x + 4} = 8$ 226) _____

A) 60 B) 64 C) 68 D) 144

Answer: A
Objective: (17.6) Solve equations that contain radical expressions.

227) $\sqrt{20x + 20} = x + 6$ 227) _____

A) 4 B) –3 C) –4 D) 5

Answer: A
Objective: (17.6) Solve equations that contain radical expressions.

Perform the indicated operation. Write the result in the form a + bi.

228) (3 – 3i) + (6 + 5i) 228) _____

A) 9 + 2i B) 9 – 2i C) –3 + 8i D) –9 – 2i

Answer: A
Objective: (17.7) Add or subtract complex numbers.

229) (6 + 6i) – (–9 + i) 229) _____

A) 15 + 5i B) 15 – 5i C) –3 + 7i D) –15 – 5i

Answer: A
Objective: (17.7) Add or subtract complex numbers.

230) (5 + 3i)(5 – 3i) 230) _____

A) 34 + 0i B) $25 - 9i^2$ C) 16 + 0i D) 25 – 9i

Answer: A
Objective: (17.7) Multiply complex numbers.

231) $\frac{8+7i}{9-2i}$ 231) _____

A) $\frac{58}{85}+\frac{79}{85}i$ B) $\frac{58}{77}-\frac{79}{77}i$ C) $\frac{86}{85}-\frac{47}{85}i$ D) $\frac{86}{77}-\frac{79}{77}i$

Answer: A
Objective: (17.7) Divide complex numbers.

Use the square root property to solve the equation.

232) $(x-5)^2=36$ 232) _____

A) 11, –1 B) –1, –11 C) 6, –6 D) 41

Answer: A
Objective: (18.1) Use the square root property to solve quadratic equations.

Use the quadratic formula to solve the equation.

233) $x^2+24x+144=0$ 233) _____

A) –12, 12 B) –12 C) 12 – i, 12 + i D) 12

Answer: B
Objective: (18.2) Solve quadratic equations by using the quadratic formula.

234) $x^2+18x+70=0$ 234) _____

A) $9+\sqrt{11}$ B) $-18+\sqrt{70}$
C) $9-\sqrt{70}, 9+\sqrt{70}$ D) $-9-\sqrt{11}, -9+\sqrt{11}$

Answer: D
Objective: (18.2) Solve quadratic equations by using the quadratic formula.

235) $x^2-8x+20=0$ 235) _____

A) 4 – 2i, 4 + 2i B) 4 – 4i, 4 + 4i C) 4 + 2i D) 6, 2

Answer: A
Objective: (18.2) Solve quadratic equations by using the quadratic formula.

236) $2x^2-7x-9=0$ 236) _____

A) $\frac{2}{9}, 1$ B) $\frac{9}{2}, -1$ C) $\frac{2}{9}, 0$ D) $\frac{2}{9}, -1$

Answer: B
Objective: (18.2) Solve quadratic equations by using the quadratic formula.

237) $7x^2=-12x-3$ 237) _____

A) $\frac{-6-\sqrt{57}}{7}, \frac{-6+\sqrt{57}}{7}$ B) $\frac{-6-\sqrt{15}}{14}, \frac{-6+\sqrt{15}}{14}$
C) $\frac{-12-\sqrt{15}}{7}, \frac{-12+\sqrt{15}}{7}$ D) $\frac{-6-\sqrt{15}}{7}, \frac{-6+\sqrt{15}}{7}$

Answer: D
Objective: (18.2) Solve quadratic equations by using the quadratic formula.

Solve.

238) $\sqrt{20x - 60} = x + 2$ 238) _____

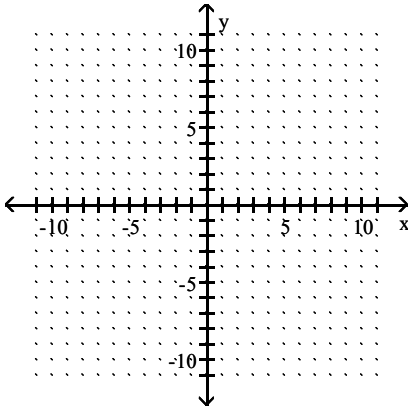
A) 8 B) –7 C) –8 D) 10

Answer: A

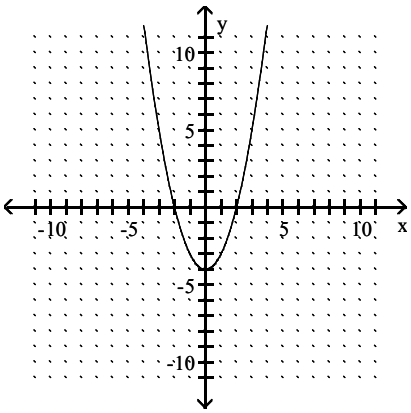
Objective: (18.3) Solve various equations that are quadratic in form.

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

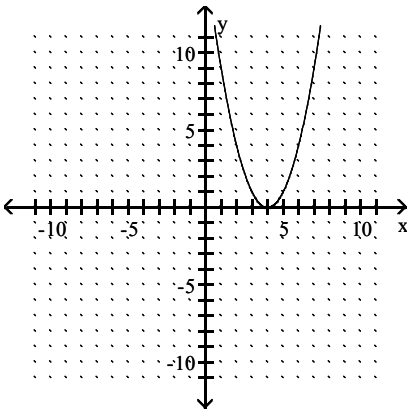
239) $f(x) = x^2 - 4$ 239) _____



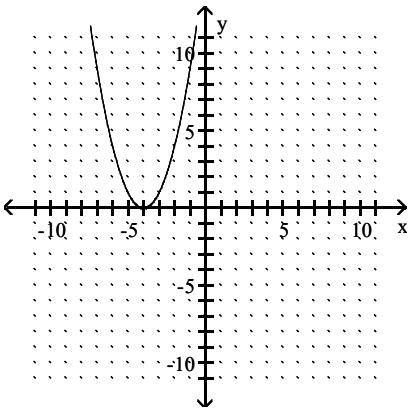
A) vertex (0, –4); axis x = 0



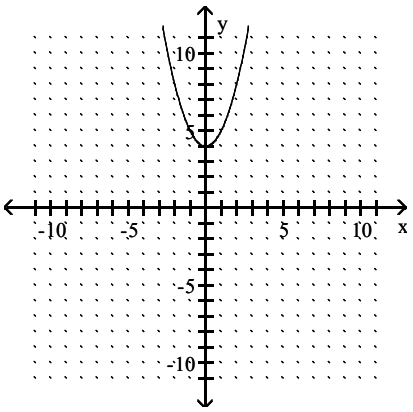
B) vertex (4, 0); axis x = 4



C) vertex (–4, 0); axis x = –4



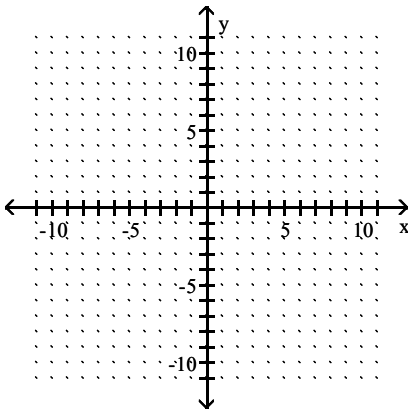
D) vertex (0, 4); axis x = 0



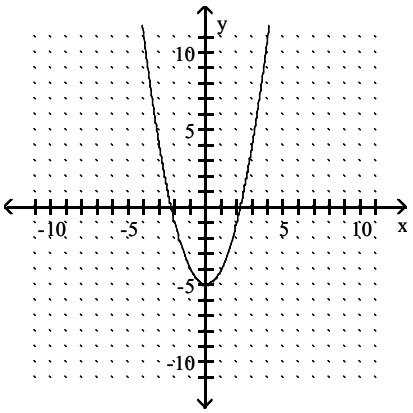
Answer: A

Objective: (18.5) Graph quadratic functions of the form f(x) = x^2 + k.

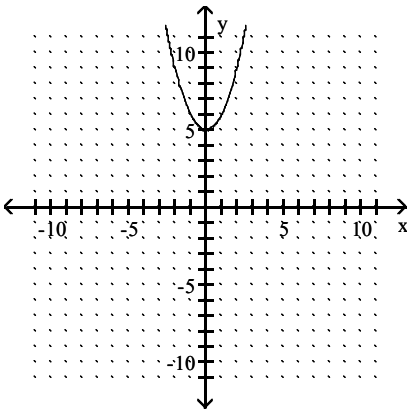
240) $f(x) = (x + 5)^2$ 240) _____



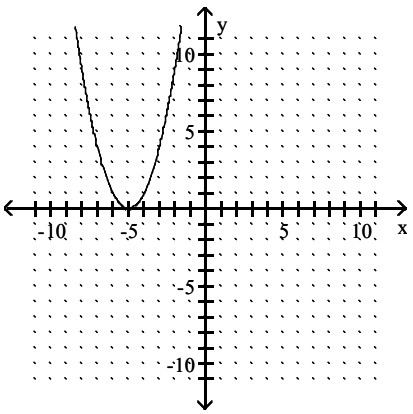
A) vertex (0, –5); axis x = 0



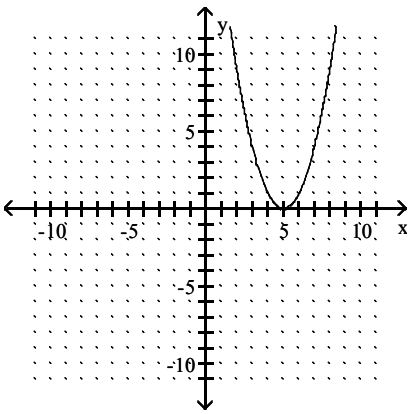
B) vertex (0, 5); axis x = 0



C) vertex (–5, 0); axis x = –5



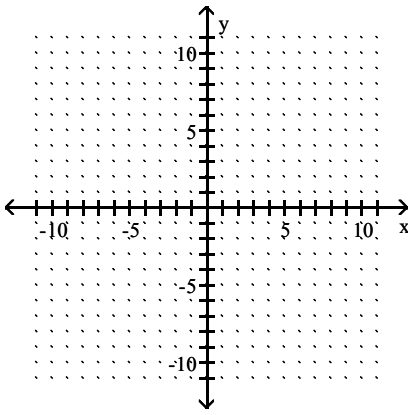
D) vertex (5, 0); axis x = 5



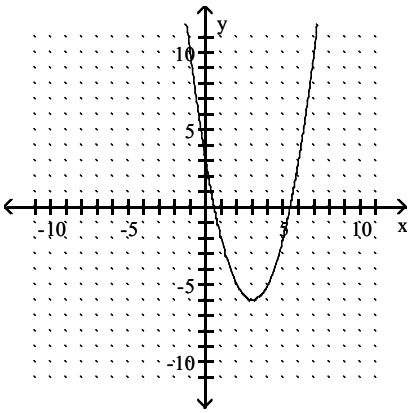
Answer: C

Objective: (18.5) Graph quadratic functions of the form f(x) = (x – h)^2.

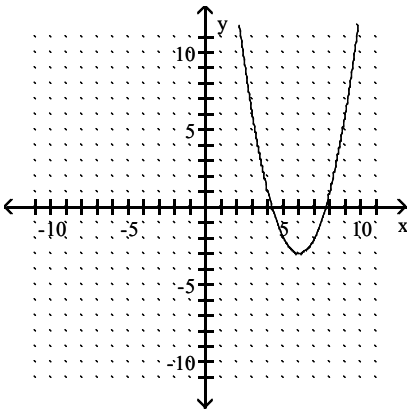
241) $f(x) = (x - 6)^2 - 3$ 241) _____



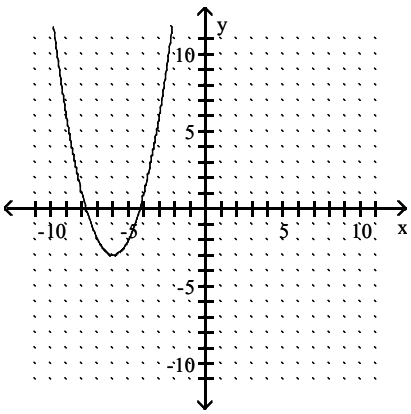
A) vertex (3, –6); axis x = 3



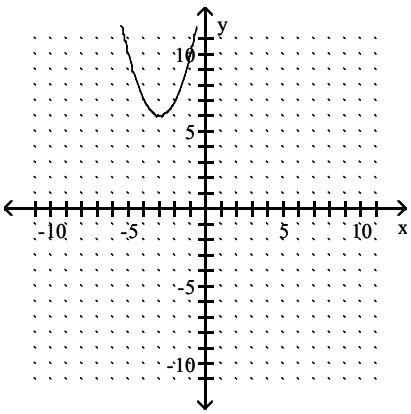
B) vertex (6, –3); axis x = 6



C) vertex (–6, –3); axis x = –6



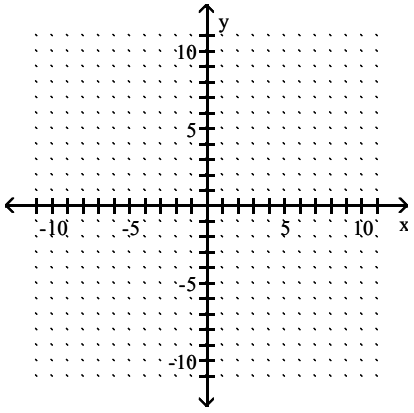
D) vertex (–3, 6); axis x = –3



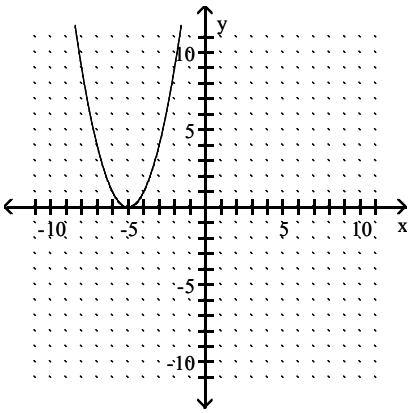
Answer: B

Objective: (18.5) Graph quadratic functions of the form f(x) = (x – h)^2 + k.

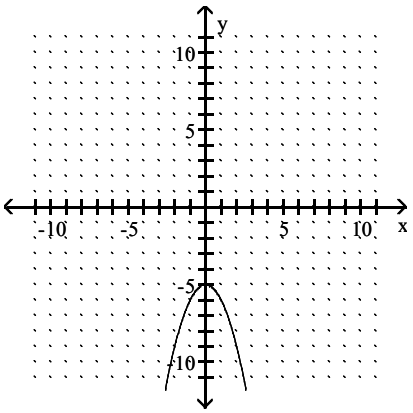
242) $f(x) = -x^2 - 5$ 242) _____



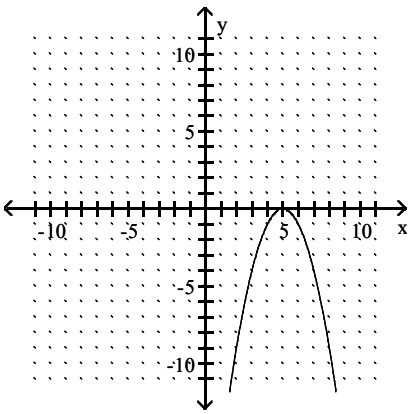
A) vertex (–5, 0); axis x = –5



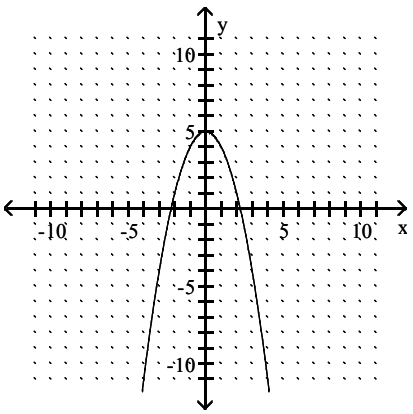
B) vertex (0, –5); axis x = 0



C) vertex (5, 0); axis x = 5



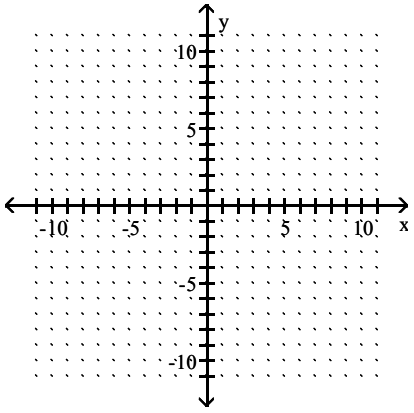
D) vertex (0, 5); axis x = 0



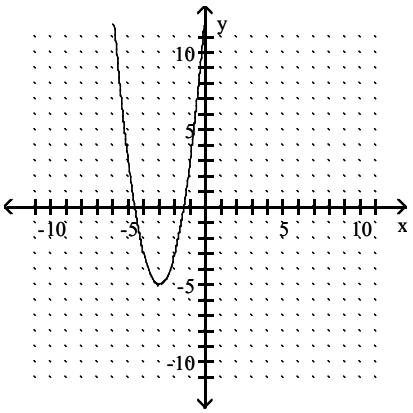
Answer: B

Objective: (18.5) Graph quadratic functions of the form f(x) = a(x – h)^2 + k.

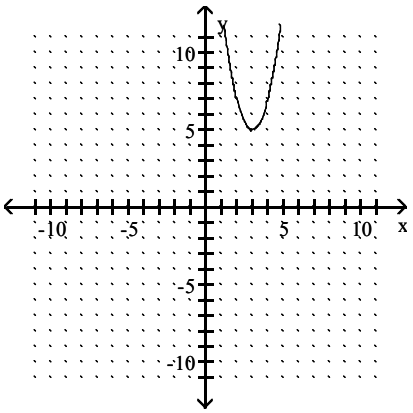
243) $f(x) = 2(x - 5)^2 + 3$ 243) _____



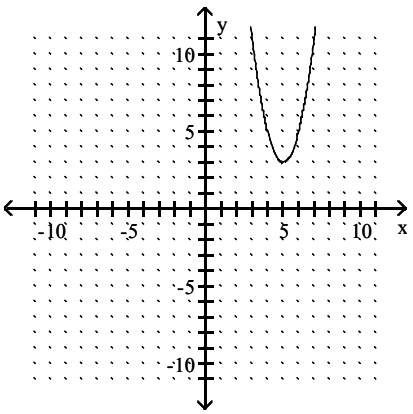
A) vertex (–3, –5); axis x = –3



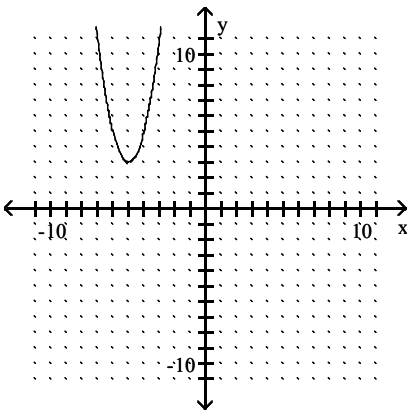
B) vertex (3, 5); axis x = 3



C) vertex (5, 3); axis x = 5



D) vertex (–5, 3); axis x = –5



Answer: C

Objective: (18.5) Graph quadratic functions of the form f(x) = a(x – h)^2 + k.

Answer Key
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