CHAPTERS 1–6

Name _____ Date _____

Cumulative Test

For use after Chapters 1–6

Evaluate the expression.

1. $(7 + 8) \cdot 3 \div 5$
2. $4 \cdot 6 - 18 \div 2$
3. $(7 + 5)^2 \div 6$
4. $5 \cdot [12 + (3 + 4)^2]$

Complete the statement with <, >, or =.

5. -7 ____ -11
6. 0 ____ -14
7. -11 ____ 6
8. $|12|$ ____ $|-12|$
9. $-|-1|$ ____ $-(-1)$
10. $-|8|$ ____ $|-8|$

Find the sum or difference.

11. $-76 + 51$
12. $-256 + (-172)$
13. $-87 - (-134)$

Find the product or quotient.

14. $-15(8)$
15. $-12(-6)(-4)$
16. $\frac{-104}{-8}$

Evaluate the expression when $x = -10$, $y = 9$, and $z = -6$.

17. $2x + 3yz$
18. $\frac{xy}{z}$
19. $x - |y| + |-z|$
20. $|y| + |-x| + z$

Write the prime factorization of the number.

21. 147
22. 112

Find the greatest common factor and the least common multiple.

23. 18, 24
24. 115, 20, 35

Complete the statement with <, >, or =.

25. $\frac{45}{14}$ ___ $\frac{24}{7}$
26. $1\frac{7}{15}$ ___ $\frac{11}{8}$

Solve the proportion.

27. $\frac{x}{14} = \frac{3}{21}$
28. $\frac{40}{12} = \frac{10}{b}$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____

CHAPTERS 1–6 Continued

Name _____ Date _____

Cumulative Test

For use after Chapters 1–6

In Exercises 29–34, find the sum, difference, product, or quotient.

29. $-\frac{7}{8} + \frac{3}{8}$

30. $7\frac{2}{11} - 4\frac{6}{11}$

31. $3\frac{2}{5} + 2\frac{4}{15}$

32. $\frac{4}{15} \cdot \frac{5}{12}$

33. $4\frac{2}{3} \cdot 3\frac{4}{7}$

34. $3\frac{3}{8} \div 6$

35. Today you ran a mile in $10\frac{3}{8}$ minutes. Yesterday it took you $11\frac{5}{6}$ minutes. How much faster were you today?

Write the fraction as a decimal or write the decimal as a fraction.

36. $\frac{8}{15}$

37. 0.04

38. 0.625

Find the sum, difference, product, or quotient.

39. $17.18 - 12.749$

40. $-0.062 + (-0.71)$

41. $4.875 \div 0.78$

42. $0.0035 \cdot 0.142$

In Exercises 43–48, complete the statement with <, >, or =.

43. 0.0123 ____ 0.090

44. 9.12 ____ $9.1\overline{2}$

45. $\frac{5}{6}$ ____ .56

46. 1.01 ____ 101%

47. 12% ____ $\frac{1}{8}$

48. $\frac{1}{50}$ ____ $\sqrt{0.4}$

49. At a zoo, 56% of the animals are mammals. The zoo has 300 animals in total. How many mammals does the zoo have?

In Exercises 50 and 51, write the percent as a decimal and as a fraction.

50. 42%

51. 210%

52. A store changed the price of a box of cereal from \$2.50 to \$3.00. Was this a percent increase or percent decrease? What was the percent change?

53. Dave and Rebekkah got married and received \$20,000. They decided to put it in an account with 6% interest compounded annually, and they would use it for a down payment on a house in a few years. How much will they have in the account in 5 years?

Answers

29. _____
30. _____
31. _____
32. _____
33. _____
34. _____
35. _____
36. _____
37. _____
38. _____
39. _____
40. _____
41. _____
42. _____
43. _____
44. _____
45. _____
46. _____
47. _____
48. _____
49. _____
50. _____
51. _____
52. _____
_____
53. _____

CHAPTERS 1–6 Continued

Name _____ Date _____

Cumulative Test

For use after Chapters 1–6

In Exercises 54 and 55, write the number as a power of 10.

54. .00001

55. 10,000

56. A commercial airplane flew 2,080,000 miles before being replaced with a new plane. Write this number in scientific notation.

Evaluate the expression.

57. 13^0

58. 7^{-2}

Evaluate the expression when $n = 2$.

59. n^{-1}

60. $\frac{1}{2^{-n}}$

Simplify the expression.

61. $\sqrt{80}$

62. $\sqrt{6} \cdot \sqrt{24}$

Tell whether the number is *rational* or *irrational*. Explain your reasoning.

63. $\frac{3}{5}$

64. $\sqrt{21}$

65. $\sqrt{\frac{4}{36}}$

Write the statement as a variable expression. Let x represent the variable.

66. the quotient of a number and 11

67. 27 decreased by a number

In Exercises 68 and 69, solve the equation.

68. $4.52 + x = 3.6$

69. $3w - 12 = 18$

70. Your mom bought a gallon of milk for \$3.65, and 1 pound of ham. Your grandmother bought a container of laundry detergent that cost \$5.75. They both spent the same amount of money. How much did the ham cost per pound?

Answers

54. _____
55. _____
56. _____
57. _____
58. _____
59. _____
60. _____
61. _____
62. _____
63. _____
64. _____
65. _____
66. _____
67. _____
68. _____
69. _____
70. _____

CHAPTERS 1–6 Continued

Name _____ Date _____

Cumulative Test

For use after Chapters 1–6

Simplify the expression by combining like terms.

71. $17x - 8y - 9x - 3y$

72. $5(2x + 8) - 3x - (-8x) - 21$

In Exercises 73 and 74, solve the equation.

73. $w + \frac{1}{6} = \frac{5}{6}$

74. $21p = 231$

75. A tree is 110 inches tall. It grows 11 inches each year. Write and solve an equation to find how many years it will take for the tree to grow to 176 inches.

Solve the inequality.

76. $-7.1 + w \geq -2.6$

77. $4x < -124$

78. $-2x > 32$

79. $-\frac{1}{6}x \leq -1$

In Exercises 80 and 81, solve the inequality.

80. $8k - 7 - 12k \leq 9$

81. $12s - 72 > 30$

82. A landscaper needs at least 5000 cubic feet of topsoil to complete a job. He already has 3600 cubic feet of soil at the site. How many truck loads of soil should he have delivered if each truck load holds 600 cubic feet of soil?

83. Tell whether the equation $y - 5x = 1$ represents direct variation.

Find the slope of the line passing through the points.

84. $(7, -4), (11, -7)$

85. $(-19, -14), (-15, -12)$

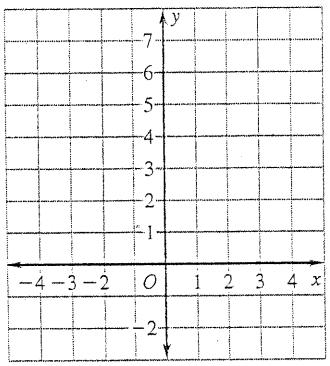
Rewrite the equation in slope-intercept form. Then find the slope and *y*-intercept of the graph of the equation.

86. $y - 6x = 12$

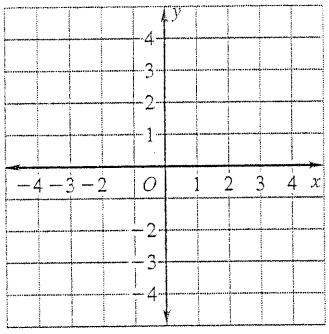
87. $2y + 5x = 12$

Graph the equation or inequality.

88. $y = -3x + 6$



89. $y \leq \frac{1}{2}x$



Answers

71. _____

72. _____

73. _____

74. _____

75. _____

_____

76. _____

77. _____

78. _____

79. _____

80. _____

81. _____

82. _____

83. _____

84. _____

85. _____

86. _____

_____

87. _____

_____

88. See left.

89. See left.

CHAPTERS 7–12

Name _____ Date _____

Cumulative Test

For use after Chapters 7–12

Multiply or divide. Write your answer as a power.

1. $9^7 \cdot 9^5$

2. $\frac{17^{16}}{17^{11}}$

Write the expression using only positive exponents.

3. $3^2x^6y^{-3} \cdot 3^5x^{-4}y^{-2}$

4. $\frac{5^{-3}a^7}{5^{-5}a^{-4}}$

In Exercises 5–10, simplify the expression.

5. $7m(3m - 6)$

6. $(-3q^2r^5)(13qr^4)$

7. $(-2x^3y^4)^4$

8. $9m(m^2 + 4)$

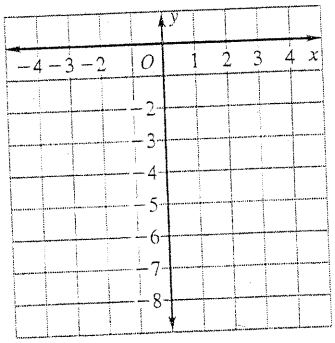
9. $(x + 5)(2x - 1)$

10. $\sqrt{9x^9}$

11. Tell whether the relation is a function. Explain your answer.
(1, 6), (3, 9), (2, 5), (3, 7), (4, 8)

12. Complete the table of values. Then graph the function.
$f(x) = -x^2 - 3$

x	-2	-1	0	1	2
$f(x)$					



In Exercises 13 and 14, write the equivalent rate.

13. $\frac{120 \text{ beats}}{1 \text{ minute}} = \frac{?}{1 \text{ hour}}$

14. $\frac{6 \text{ servings}}{1 \text{ pint}} = \frac{?}{1 \text{ quart}}$

15. Faye drove 25 miles in 30 minutes. Gordon drove 4 miles in 5 minutes. Who was driving at a faster speed?

16. Faith and Charity are sisters who share a room. Faith takes 45 minutes to clean their room alone, while Charity takes an hour. How long would it take them to clean their room together?

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. See left.
13. _____
14. _____
15. _____
16. _____

CHAPTERS 7–12 Continued

Name _____ Date _____

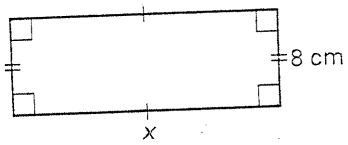
Cumulative Test

For use after Chapters 7–12

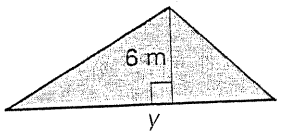
17. Find the area of a triangle with a height of 12 inches and a base of 7 inches.

Find the value of the variable in each figure.

18. Perimeter = 60 cm

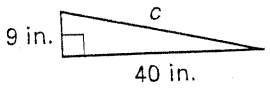


19. Area = 51 m^2

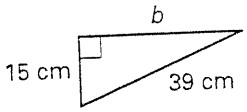


In Exercises 20 and 21, find the unknown length.

20.



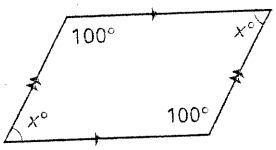
21.



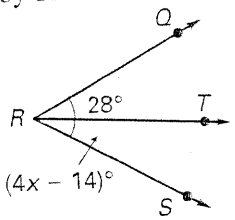
22. The line PQ has midpoint M. If PM has length 42 and MQ has length $2x$, what is the value of x?

Find the value of x.

23.

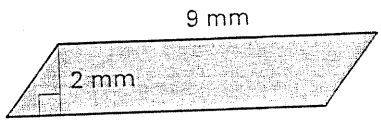


24. $\angle QRS$ is bisected by $\overrightarrow{RT}$.

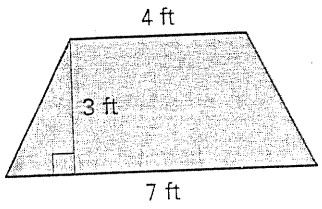


In Exercises 25 and 26, find the area of the parallelogram or trapezoid.

25.



26.



27. Find the area of a circle with a radius of 8 meters. Use 3.14 for π.

Answers

17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____

CHAPTERS 7–12 Continued

Name _____ Date _____

Cumulative Test

For use after Chapters 7–12

Find the indicated measurement, where r = radius, d = diameter, and C = circumference. Use 3.14 or $\frac{22}{7}$ for π.

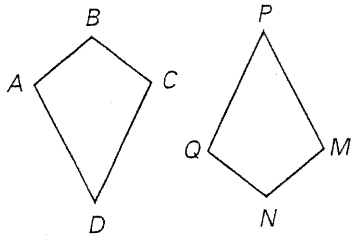
28. $C = 94.2$ cm, $r =$ ____

29. $d = 35$ ft, $C =$ ____

Use the diagram. Quadrilateral *ABCD* ≅ quadrilateral *MNQP*.

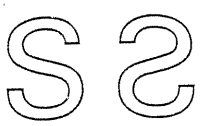
30. Name four pairs of congruent angles.

31. Name four pairs of congruent sides.

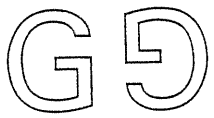


In Exercises 32 and 33, tell whether the figures are reflections of each other.

32.

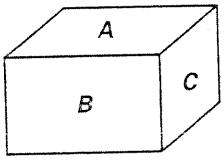


33.



34. Barbara has a toy sports car that is to scale with the actual car. If the toy is 7 inches long and the actual car is 14 feet long, what is the scale?

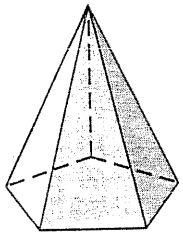
In Exercises 35 and 36, use the diagram of planes *A*, *B*, and *C*.



35. Describe the intersection of planes B and C.

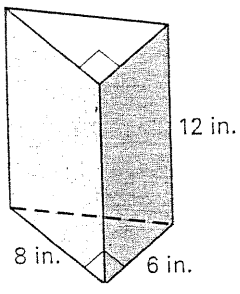
36. Describe the intersection of planes A, B, and C.

37. Classify the solid at the right. Then count the number of faces, edges, and vertices.

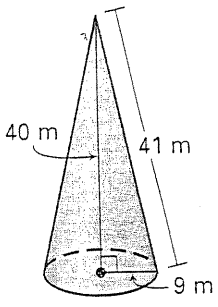


Find the surface area and volume of the solid.

38.



39.



Answers

28. _____
29. _____
30. _____
_____
_____
_____
31. _____
_____
_____
_____
32. _____
33. _____
34. _____
35. _____
36. _____
37. _____
_____
_____
_____
38. _____
_____
39. _____
_____

CHAPTERS 7–12 Continued

Name _____ Date _____

Cumulative Test

For use after Chapters 7–12

In Exercises 40–43, use the data showing the amounts of money spent by 12 people at a store.
$5, $11, $17, $8, $21, $14, $25, $15, $9, $19, $22, $30

40. Make a stem-and-leaf plot of the data.

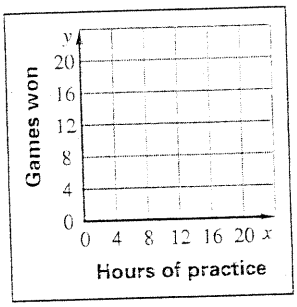
41. Make a box-and-whisker plot of the data.

42. Find the mean, median, mode(s), and range of the data.

43. If you were to make a histogram of the data, give the ranges you would use for the frequency table.

44. Make a scatter plot of the data in the table. Then describe the relationship.

Hours of practice	4	8	12	16
Games won	3	7	13	20

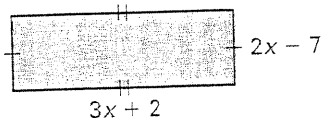


In Exercises 45 and 46, simplify the polynomial and write it in standard form.

45. $5x^2 + 3x + 9 - 7x + 3x^2 - 4$

46. $3(x^2 - 4x + 3) + 2x^2 - 5x$

47. Write polynomial expressions for the perimeter and the area of the rectangle. Simplify the polynomials.



Find the sum or difference.

48. $(-7n^2 + 4n + 6) + (3n^2 + 2n)$

49. $(8t^3 + 3t - 11) - (6t^2 - 4t + 5)$

Answers

40. See left.
41. See left.
42. _____
43. _____
44. See left.
45. _____
46. _____
47. _____
48. _____
49. _____

COURSE 2

Name _____ Date _____

Post-Course Test

For use after Chapter 12

Evaluate the expression.

1. $15 + 12 - 6$
2. $\frac{(1 + 4)^3}{5}$
3. $17 - 3x$ when $x = 4$
4. $\frac{3}{4}y + 1$ when $y = 8$
5. $a - |b| + |-c|$ when $a = 3$, $b = -2$, and $c = -3$

Write the absolute value and the opposite of the integer.

6. 17
7. -24

Find the sum, difference, product, or quotient.

8. $-61 + 18$
9. $-10 + (-22)$
10. $-9 - 72$
11. $-8(15)$
12. $-12(-11)$
13. $-48 \div 8$

Find the GCF and LCM of the numbers.

14. 32, 56
15. 5, 35, 100

Complete the statement using <, >, or =.

16. $\frac{42}{8}$? $\frac{20}{4}$
17. $7\frac{1}{3}$? $\frac{44}{6}$
18. 0.123 ? 0.098
19. 1.7 ? 1.70

Find the sum, difference, product, or quotient.

20. $3\frac{5}{6} + \left(-1\frac{1}{3}\right)$
21. $-\frac{3}{5} \cdot \frac{10}{9}$
22. $1\frac{3}{4} \div \frac{14}{5}$
23. $-7.2 + 2.34$
24. $-6.1 \cdot 4.8$
25. $-23.65 \div (-4.3)$

Write the percent as a decimal and as a fraction.

26. 34.5%
27. 0.25%

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____

COURSE 2 Continued

Name _____ Date _____

Post-Course Test

For use after Chapter 12

28. A book that has an original price of \$15 is discounted 25%. What is the sale price of the book?

29. Claire received \$2000 from an aunt for her 12^{th} birthday. If Claire puts the money in an account that earns 5% interest compounded annually, how much will be in the account on her 21^{st} birthday?

In Exercises 30 and 31, write as a power of 10.

30. 10,000,000,000

31. 0.0001

32. Write 7.21×10^{-5} in standard form.

33. Write 3,680,000,000 in scientific notation.

34. Find the following square roots:
$\sqrt{4}, \sqrt{49}, -\sqrt{144}$.

35. Order the numbers $\frac{15}{18}$, 0.7, $0.\overline{77}$, $\frac{8}{9}$, and $\sqrt{0.5}$ from least to greatest.

Tell whether the number is rational or irrational.

36. $\sqrt{\frac{9}{4}}$

37. $\sqrt{10}$

In Exercises 38 and 39, write the phrase as an algebraic expression. Let *x* represent the variable.

38. a number divided by 10

39. Negative six times a number, plus 2

40. The school store sells erasers for \$.10, pencils for \$.15 and pens for \$.25. Write an expression for the total cost if you buy x erasers, y pencils, and z pens.

Simplify the expression by combining like terms.

41. $7 - 7x + 8x - 1$

42. $12a + 7 + 2b - 3(a + b)$

Solve the equation.

43. $t - \frac{2}{5} = \frac{1}{5}$

44. $2.4b = -9.6$

45. $\frac{s}{-3} = 1.1$

46. $2d + 8 = 18$

47. $-4c - 1 = -21$

48. $7 - \frac{f}{2} = 12$

Answers

28. _____
29. _____
30. _____
31. _____
32. _____
33. _____
34. _____
_____
_____
35. _____
_____
36. _____
37. _____
38. _____
39. _____
40. _____
41. _____
42. _____
43. _____
44. _____
45. _____
46. _____
47. _____
48. _____

COURSE 2 Continued

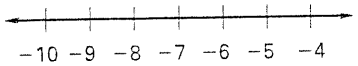
Name _____ Date _____

Post-Course Test

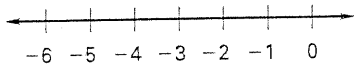
For use after Chapter 12

Solve the inequality. Then graph its solution.

49. $\frac{x}{4} \geq -2$



50. $-7x + 3 < 24$



Solve the proportion.

51. $\frac{21}{25} = \frac{x}{75}$

52. $\frac{5}{18} = \frac{15}{a}$

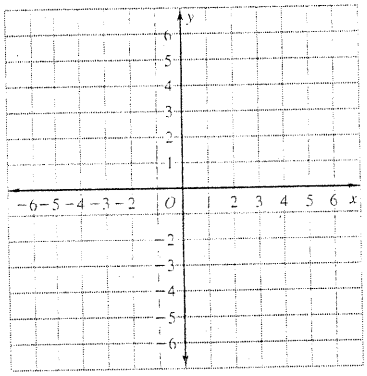
Tell whether the ordered pair is a solution of the equation.

53. $3x + 2y = 3$; $(1, 0)$

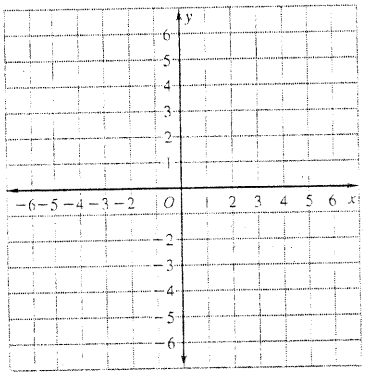
54. $y = -\frac{1}{4}x + 5$; $(1, 5.25)$

In Exercises 55 and 56, graph the equation. Identify the intercepts and slope of the graph.

55. $-2x + y = 5$

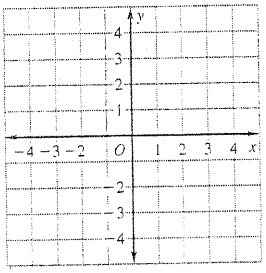


56. $x - 3y = 6$



57. Find the slope of the line passing through the points $(-2, 4)$ and $(0, 8)$.

58. Graph the inequality $y < \frac{1}{2}x + 1$.



Tell whether the equation represents direct variation.

59. $y = \frac{3}{2}x + 4$

60. $y - 3x = 0$

Answers

49. _____ See left.
50. _____ See left.
51. _____
52. _____
53. _____
54. _____
55. See left. _____
56. See left. _____
57. _____
58. See left.
59. _____
60. _____

COURSE 2 Continued

Name _____ Date _____

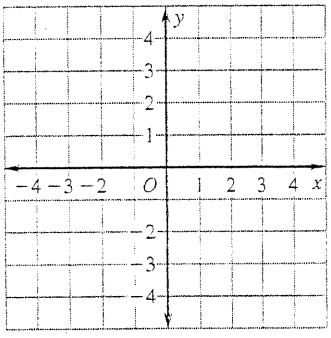
Post-Course Test

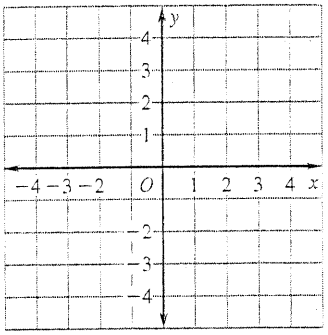
For use after Chapter 12

Solve the system of equations or inequalities.

61. $y = x + 2$
$2x - y = -1$

62. $y > -1$
$y - 2x \leq -1$





Simplify. Write the expression using only positive exponents.

63. $x^5 \cdot x^2$

64. $x^{-2} \cdot x^{-3}$

65. $\frac{y^8}{y^3}$

66. $(-2m^2)(5m^4)$

67. $(6xy^3)^2$

68. $\frac{(2x^{-2})^2 y}{3y^{-1}}$

Simplify the expression.

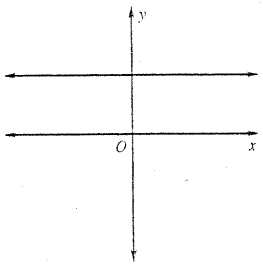
69. $\sqrt{b^4}$

70. $\sqrt{27m^2}$

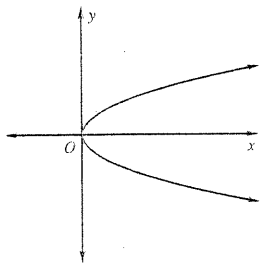
71. $\sqrt{k^3} \cdot \sqrt{k^5}$

In Exercises 72 and 73, tell whether the graph represents a function.

72.



73.



74. Decide whether the relation $(-8, 16), (8, 16), (16, 8), (-8, -16)$ is a function. Explain your answer.

75. Write a function rule that relates x and y.

Input x	-2	-1	0	1
Output y	4	3	2	1

Answers

61. See left.
62. See left.
63. _____
64. _____
65. _____
66. _____
67. _____
68. _____
69. _____
70. _____
71. _____
72. _____
73. _____
74. _____
75. _____

Simplify the polynomial and write it in standard form.

98. $4 + 4x - x^2 + 7 - x$

99. $2(y + 4) - 8y + y^2 - 8$

Simplify the expression.

100. $(5x^2 + x - 4) + (x^2 - 2x + 9)$

101. $(x^3 + x^2 + 6x + 1) - (2x^2 - x + 3)$

102. $(3x - 2)(x + 4)$

COURSE 2

Name _____ Date _____

Algebra Readiness Test

For use after Chapter 12

Evaluate the expression when $a = 3.2$, $b = 5$, and $c = -8$.

1. $2a + b$
2. $5ab$
3. $\frac{10a}{b}$
4. $b^2 - a^2$
5. $\frac{a^2}{b}$
6. $c - a$
7. $b - c + a$
8. $\frac{-16b}{c}$
9. $(-b^2)c$

In Exercises 10–17, write the phrase or sentence as a variable expression or equation. Use x as the variable.

10. A number decrease by 105
11. A number plus 4
12. The quotient of 16 and a number
13. A number is 120% of 16.
14. The product of 15 and a number is 45.
15. Twice the sum of 16 and a number is 20.
16. Three times the quotient of a number and 2 is 6.
17. The quotient of a number and 6 is equal to the number decreased by 4.

Evaluate $y + (-201)$ for the given value of y.

18. $y = 105$
19. $y = -316$
20. $y = |-285|$
21. $y = -|-400|$

Simplify the expression.

22. $-52 + [y + (-17)]$
23. $a + 7b + 3a$
24. $-5c + 8 + 5c + 2$
25. $3r + s - (-2r) - 2s$
26. $\frac{f}{12} - \frac{7f}{12}$
27. $-\frac{b}{6} + \frac{5b}{6}$

Evaluate the expression when $x = \frac{2}{5}$ and $y = -\frac{3}{8}$.

28. $-\frac{5}{6}x$
29. $2\frac{1}{3}y$
30. xy
31. $\frac{5}{9} \div x$
32. $2\frac{1}{4} \div y$
33. $x \div y$

Answers

1. _____
2. _____
3. _____
4. _____
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COURSE 2 Continued

Name _____ Date _____

Algebra Readiness Test

For use after Chapter 12

Solve the equation. Write your answer in simplest form.

34. $8 + x = 4$

35. $x + (-2) = 11$

36. $x - 3 = 12$

37. $x - 3.1 = 7.4$

38. $6x = -24$

39. $-11x = 132$

40. $\frac{x}{21} = 8$

41. $\frac{x}{-1.1} = 9$

42. $5x + 4 = -1$

43. $13 - 2x = -1$

44. $15 + \frac{x}{3} = 17$

45. $x - \frac{1}{4} = \frac{3}{4}$

46. $\frac{2}{3} + x = \frac{1}{3}$

47. $\frac{2}{5} + \frac{1}{3} - x = 1\frac{1}{15}$

48. $x - \frac{2}{7} = \frac{1}{4}$

49. $\frac{3}{2}a = -1$

50. $\frac{4}{5}b = 4\frac{4}{5}$

51. $-\frac{5}{3}c = -6\frac{2}{3}$

52. $1.8 + x = 4.3$

53. $x - 2.5 = -7.1$

54. $9.6 = x - 8.4$

55. $1.7x = -6.29$

56. $\frac{x}{-4.5} = -9.2$

57. $\frac{x}{1.3} = 4.68$

58. $2y - 5y + 8y = 30$

59. $16z - 11 + 2z + 1 = -1$

60. $-17 = 6x - (1 + 2x)$

61. $\frac{3w + 5}{-8} = -4$

62. $8g - 10 = 6g$

63. $2f + 8 = -7f - 10$

64. $3.6d + 1.2 = 8.4(d - 1)$

65. $\frac{1}{2}(4\ell + 2) = 3(\ell - 2)$

Solve the equation. Round your answer to the nearest hundredth, if necessary.

66. $36 = \ell^2$

67. $a^2 = 1600$

68. $t^2 + 16 = 137$

69. $m^2 - 5 = 4$

70. $41 = r^2 - 2$

71. $d^2 + 0.2 = 1.24$

72. Evaluate $\sqrt{x^2 + y^2}$ when $x = 12$ and $y = 9$.

73. Evaluate $\sqrt{x^2 - y^2}$ when $x = -17$ and $y = 15$.

Answers

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35. _____
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COURSE 2 Continued

Name _____ Date _____

Algebra Readiness Test

For use after Chapter 12

Write a phrase or sentence describing the inequality.

74. $g \leq -2$

75. $9 < a$

76. $2(x + 1) > 6$

77. $\frac{r}{-12} \geq 3$

Solve the inequality.

78. $x + 5 > 7$

79. $3x \geq 7$

80. $\frac{x}{8} < -10$

81. $\frac{x}{-11} + 6 < 4$

82. $8g - 7 > 2g + 11$

83. $-0.3t - 9 + 5.8t \leq -6.25$

Factor the monomial.

84. $16ab$

85. $55x^3y^4$

86. $126fg^3h$

Find the GCF and LCM of the monomials.

87. $9z^4, 15z^7$

88. $14w^2, 42wx$

89. $20ab^3, 200abc^5$

90. $19m^8np, 78m^3p^2$

91. Write the fraction $\frac{-16xy}{52x^2}$ in simplest form.

Simplify. Write the expression using only positive exponents.

92. $a^7 \cdot a^4$

93. $\frac{g^{11}}{g^3}$

94. $\frac{4^3d^{10}e^3}{4^2d^{-3}e}$

Find the value of *x*.

95. $\frac{x}{9} = \frac{25}{45}$

96. $\frac{7}{12} = \frac{x}{48}$

97. $\frac{81}{36} = \frac{9}{x}$

98. $\frac{7.3}{2.1} = \frac{x}{12.6}$

99. $\frac{2x}{3} = \frac{60}{15}$

100. $\frac{4}{x - 3} = \frac{8}{10}$

Answers

74. _____
75. _____
76. _____
77. _____
78. _____
79. _____
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100. _____

COURSE 2 Continued

Name _____ Date _____

Algebra Readiness Test

For use after Chapter 12

In Exercises 101–102, write a function rule that relates r and t.

101.

Input r	-2	0	2	4	6
Output t	1	0	-1	-2	-3

102.

Input r	-2	-1	0	1	2
Output t	5	4	3	2	1

103. Tell whether $y = -4x^2$ is a *linear function*, a *quadratic function*, or a *cubic function*.

Tell whether the ordered pair is a solution of the equation.

104. $2x + 5y = 3; \left(1, \frac{1}{5}\right)$

105. $y = x - 10; (10, 10)$

106. $\frac{1}{7}x + y = 0; (-7, 1)$

107. $y = 6.7x + 10; (-2, 23.4)$

Tell whether the ordered pair is a solution of the inequality.

108. $x > y; (8, 8)$

109. $5x + 5y > 20; (1, 2)$

110. $2.2x + y > 13; (4, -5)$

111. $\frac{5}{2x} - 3y \geq \frac{3}{2}; (-2, -2)$

Rewrite the equation in slope-intercept form.

112. $x + 3y = 9$

113. $x - y = 5$

114. $y + 2x = 7$

115. $\frac{1}{4}y - 4 = 7$

116. $\frac{1}{3}x + \frac{2}{3}y = 2$

117. $-x - y + 3 = 0$

Simplify the polynomial and write it in standard form.

118. $6 + x - x^2 + 4 - x$

119. $3(y + 1) - y + y^2$

Simplify the expression.

120. $(x^2 + x - 3) + (4x^2 - 2x + 1)$

121. $(x^2 + 7x + 2) - (2x^2 - x + 6)$

122. $(3n^2)(-4n^4)$

123. $(-r^3t^2)^2$

124. $(x + 4)(x + 9)$

125. $(4x - 1)(x + 3)$

Answers

101. _____

102. _____

103. _____

104. _____

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