KEY

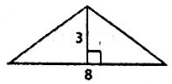
Name Final Review *all work must be shown on separate sheet of paper

Test 1

End-of-Course Test

Simplify the expression. Identify the properties used.

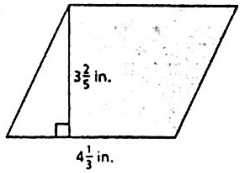
1. $4(x - 3)$
2. $(3 \cdot x) \cdot 7$
3. Use a formula to find the area of the figure.



4. Tickets to a basketball game cost \$4 for adults and \$2 for children. Write an expression that gives the total cost for a adults and c children to attend the game. What is the total cost for a family of 2 adults and 3 children to attend the game?

Perform the indicated operation.

5. $\frac{7}{9} \times \frac{6}{5}$
6. $2\frac{1}{4} + \frac{3}{8}$
7. 0.35×1.2
8. $0.25\overline{)7.38}$
9. Find the area of the parallelogram.



Evaluate the expression.

10. $6 + 9 + 3$
11. $5^2 - 4 \times 2$
12. $(4 - 2)^3 - 2(3 + 1)$
13. $15 + 3(6 + 2) - 4^2$
14. A recipe for a batch of 3 dozen chocolate chip cookies calls for 3 cups of flour, 1 cup of sugar, and 2 cups of chocolate chips. How much of each ingredient should be used to make 2 dozen cookies?
15. Find the area of the polygon with vertices $A(0, 1)$, $B(0, 5)$, $C(4, 5)$, and $D(6, 1)$.
16. The ages of people on a jury are 41, 45, 39, 56, 48, 45, 42, 34, 47, 62, 35, and 58. Make a stem-and-leaf plot of the data.

Ages of People

Stem	Leaf
3	459
4	125578
5	68
6	2

Key 4|7 = 47 years

Answers

1. 4x-12 Dist. Prop.
2. 21x Comm. Prop; Assoc. Prop.
3. 12 units²
4. P = 4a + 2c
   \$14
5. 14/15
6. 6
7. 0.42
8. 29.52
9. $14\frac{11}{15}$ in²
10. 9
11. 17
12. 0
13. 8
14. 2 cups flour
    2/3 cups sugar
    1 1/3 cups choc. chips
15. 20 units²
16. See left.

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Test 1

End-of-Course Test (continued)

Order the integers from least to greatest.

17. 7, 3, −2, −4, 5
18. −5, −1, 3, 0, −3
19. A twelve-pack of juice costs \$4.20. An eighteen-pack costs \$5.40. Which is the better buy?

Write the fraction or mixed number as a percent.

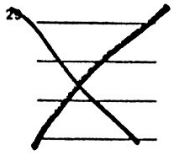
20. $\frac{3}{8}$
21. $\frac{6}{5}$
22. $3\frac{1}{4}$
23. Chris, Mary Beth, and Allison are discussing the number of oranges grown in Florida. Chris says that approximately 14.6% of the world's oranges are grown in Florida, Mary Beth says that 292 out of every 2000 oranges are grown in Florida, and Allison says that 0.146 of the world's oranges are grown in Florida. Are they in agreement? Explain your reasoning.
24. How many vertices does a triangular prism have?
25. A pizza shop offers 30% off the price of a large pizza every Tuesday night. If the regular price is \$25, what is the discounted price?
26. Write the ratio of basketballs to footballs. Explain what the ratio means.

27. You run 6 miles in 1 hour. At this rate, how long will it take you to run a marathon (approximately 26 miles)?
28. Determine the mean, median, mode(s), IQR, and range for the data.

    3, 8, 6, 6, 4, 6, 9, 9, 12

29. Katie makes 70% of her shots from the free-throw line. Can you determine how many consecutive free-throws she must make in order to increase her percentage to 75%? Explain.

Answers

17. −4, −2, 3, 5, 7
18. −5, −3, −1, 0, 3
19. 18-pack (\$0.30 per juice)
20. 37.5%
21. 120%
22. 325%
23. They all agree
    14.6% = 292/2000 = 0.146
24. 6 vertices
25. \$17.50
26. 4:6
    4 basketballs for 6 footballs
27. ≈ 4 hrs. 20 min
28. mean: 7
    median: 6
    mode: 6
    IQR: 4
    range: 9
29. 

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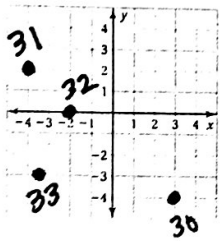
Test 1 End-of-Course Test (continued)

Plot the ordered pair in the coordinate plane.

30. $(3, -4)$ 31. $(-4, 2)$

32. $(-2, 0)$ 33. $(-3, -3)$

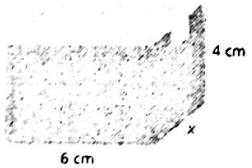


Solve the equation.

34. $s + 3 = 13$ 35. $4c = 24$

36. A farmer builds a fence to enclose a rectangular pasture. He uses 160 feet of fence. Find the total area of the pasture if it is 50 feet long.

37. Write and solve an equation to find the width of the box if its volume is 96 cubic centimeters. Then find its surface area.



38. The prices of backpacks at a store are \$22, \$16, \$39, \$35, \$19, \$34, \$20, and \$26. Find the mean absolute deviation of the prices.

Write the word sentence as an inequality.

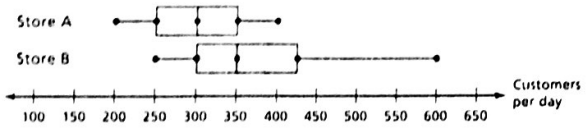
39. A number t is less than 7. 40. A number m is at least -3.

Determine whether the question is a statistical question. Explain.

41. How tall are sixth grade students in the United States?

42. How many inches are in one foot?

Use the box-and-whisker plot to answer the question.



43. How often does Store A have 300 or less customers per day?

44. Identify the shape of each distribution.

45. Which store has more customers?

Answers

30. See left.
31. See left.
32. See left.
33. See left.
34. $s = 10$
35. $c = 6$
36. $1500 ft^2$
37. $(4 \cdot 6) \cdot x = 96$
$x = 4 cm$
$SA = 128 cm^2$
38. 7.125
39. $t < 7$
40. $m \geq -3$
41. Statistical
more than 1 answer
42. not statistical
only 1 answer
43. 50% of the time
44. Store A: symmetric
Store B: skewed right
45. Store B

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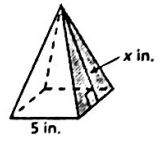
Test 1 End-of-Course Test (continued)

Find the GCF of the numbers.

46. 30, 105 47. 84, 90

48. You have piano lessons every seventh day and cooking lessons every fourth day. Today you have both lessons. In how many days will you have both lessons on the same day again?

49. The surface area of a square pyramid is 95 square inches. The side length of the base is 5 inches. What is the value of x?



Find the missing values in the ratio table.

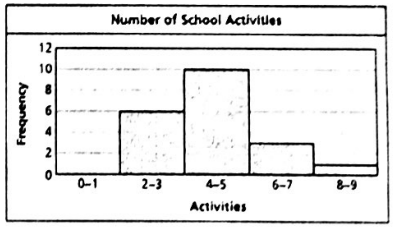
50.

Teachers	2	3	10
Students	24	36	120

51.

Cups	52	36	20
Quarts	13	9	5

In Exercises 52–54, use the histogram that shows the number of school activities that students are involved in during the year.



52. Which interval contains the fewest data values?

53. How many students are there?

54. Determine the percent of students that are involved in at least 4 or 5 activities.

Answers

46. 15
47. 6
48. 28 days
49. 7
50. See left.
51. See left.
52. 0–1
53. 20 students
54. 70%

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Test 1 End-of-Course Test (continued)

Order the numbers from least to greatest.

55. $|-3|, 4, -4, -|2|, -1$

56. $\frac{21}{2}, -7.5, -\frac{36}{5}, 9.5$

Simplify the expression.

57. $4 - (-3)$

58. $-2 + 15$

59. $-3(4)$

60. $27 \div (-3)$

61. $-\frac{1}{6} + \frac{7}{12}$

62. $0.24 - 1.6$

63. $2\frac{3}{5} \cdot \left(-\frac{4}{3}\right)$

64. $-24 \div 3.2$

65. On an exam you get two points for each question answered correctly, zero points for each question left blank, and lose one point for each question answered incorrectly. What is your total score on the exam if you answer 22 questions correctly, leave 7 questions blank, and answer 5 questions incorrectly?

Solve.

66. $x + 2\frac{4}{5} = 3\frac{1}{6}$

67. $-0.4a + 1.2 = 3.6$

68. A pencil costs \$0.30 and a pen costs \$0.50. You buy 10 pencils and the total cost is \$7.50. How many pens did you buy?

69. A farmer builds a fence to enclose a rectangular pasture. He uses 160 feet of fence. Find the total area of the pasture if it is 50 feet long.

70. The table shows the time in minutes m to download s songs. How long does it take to download one song?

Minutes	1	3	5
Songs	2	6	10

Answers

55. $-4, -|-2|, -1, |-3|, 4$
56. $-7.5, -36/5, 9.5, 21/2$
57. 7
58. 13
59. -12
60. -9
61. $5/12$
62. -1.36
63. $-37/15$
64. -7.5
65. 39 points
66. $x = 11/30$
67. $a = -6$
68. 9 pens
69. 1500 ft²
70. 0.5 min. or 30 seconds

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Test 1 End-of-Course Test (continued)

Tell whether the ratios form a proportion.

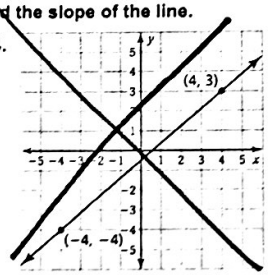
71. $\frac{3}{8}, \frac{13}{40}$

72. $\frac{7}{9}, \frac{28}{36}$

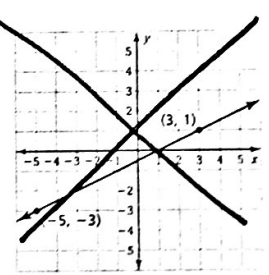
73. Solve the proportion $\frac{7}{5} = \frac{21}{x}$.

Find the slope of the line.

74.



75.



76. If 30% of a number is 15, what is the number?

77. A store sign reads "Take 75% off the original price when you take an additional 15% off the sale price, which is 60% off the original price." Is the store's sign accurate? Explain.

78. You put \$1200 in an account that earns 3% simple interest. Find the total amount in the account after four years.

Answers

71. No
72. Yes
73. $x = 15$
74. X
75. 50
76. See left.
77. X
78.

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