

# LAKEHURST MIDDLE SCHOOL SUMMER MATH PACKET

The areas below are all significant topics that are important to your success in Middle School math. These are all skills that have been taught in our middle school curriculum. Complete these problems without the use of a calculator.

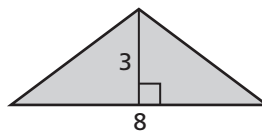
This is due upon your return from summer break.

## 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.

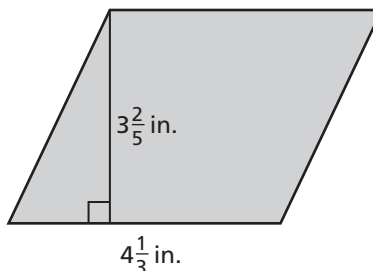
5.  $\frac{7}{9} \times \frac{6}{5}$

6.  $2\frac{1}{4} \div \frac{3}{8}$

7.  $0.35 \times 1.2$

8.  $0.25 \overline{)7.38}$

9. Find the area of the parallelogram.



## Evaluate the expression.

10.  $6 + 9 \div 3$

11.  $5^2 - 4 \times 2$

12.  $(4 - 2)^3 - 2(3 + 1)$

13.  $15 + 3(6 \div 2) - 4^2$

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 of  $A(0, 1)$ ,  $B(0, 5)$ ,  $C(4, 5)$ , 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.

## Answers

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

15. \_\_\_\_\_

16. **See left.**

**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. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

21. \_\_\_\_\_

22. \_\_\_\_\_

23. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

24. \_\_\_\_\_

25. \_\_\_\_\_

26. \_\_\_\_\_

\_\_\_\_\_

27. \_\_\_\_\_

28. \_\_\_\_\_

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29. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

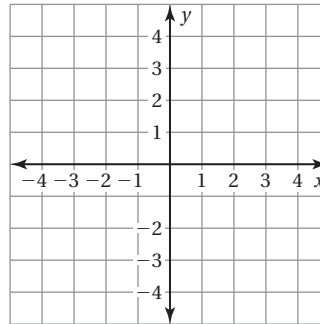
Plot the ordered pair in the coordinate plane.

30.  $(3, -4)$

31.  $(-4, 2)$

32.  $(-2, 0)$

33.  $(-3, -3)$



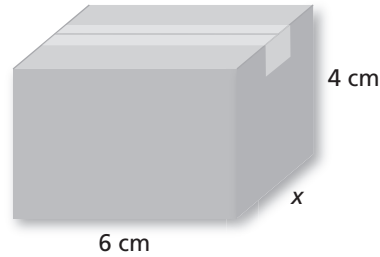
Solve the equation.

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.

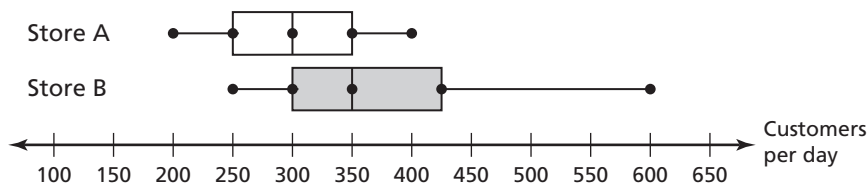
40. A number  $m$  is at least  $-3$ .

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. \_\_\_\_\_

35. \_\_\_\_\_

36. \_\_\_\_\_

37. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

38. \_\_\_\_\_

39. \_\_\_\_\_

40. \_\_\_\_\_

41. \_\_\_\_\_

\_\_\_\_\_

42. \_\_\_\_\_

\_\_\_\_\_

43. \_\_\_\_\_

44. \_\_\_\_\_

\_\_\_\_\_

45. \_\_\_\_\_

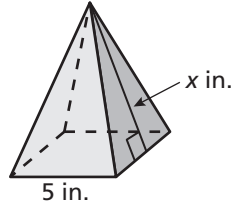
Find the GCF of the numbers.

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  $x$ ?



Answers

46. \_\_\_\_\_

47. \_\_\_\_\_

48. \_\_\_\_\_

49. \_\_\_\_\_

50. See left.

51. See left.

52. \_\_\_\_\_

53. \_\_\_\_\_

54. \_\_\_\_\_

Find the missing values in the ratio table.

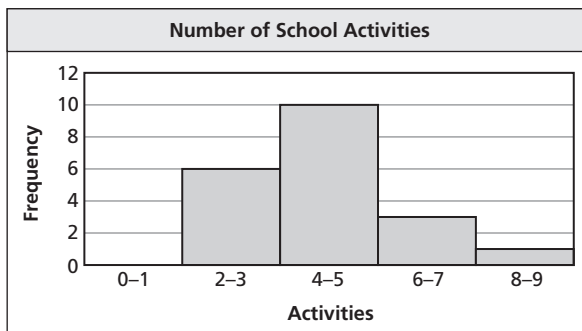
50.

<b>Teachers</b>	2	3	
<b>Students</b>	24		120

51.

<b>Cups</b>	52	36	
<b>Quarts</b>	13		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.