SUMMER MATH

Welcome to Summer Vacation! Your child has worked hard this school year to strengthen their ability as a *Mathematician*. Remember that learning does not stop outside the classroom. Daily routines and household chores can be used as activities to practice mathematical concepts and make learning fun. Having fun with math is key to helping children on their journey to become confident *mathematicians*.

Below you will find **Suggested Activities** and the **Summer Math Review Packet**. Engaging your child with some of the listed activities will help bridge their connections of mathematics to everyday life!

Suggested Activities:

- Add and subtract items around the house. Use the terms "more than," "less than," "equal to," and "is the same as" to describe the relationships between or among the items. Use multiplication and division when applicable and when grade appropriate. Ask questions such as "If you ate a total of 30 cookies, *some* in the morning and 12 in the afternoon, how many crackers did you eat in the morning?"

- Adding math language to daily conversations allows for students to connect what they've learned in school to their daily lives. For younger children, identify the shapes you see in the real world around you. For older students, discuss distance or gas mileage when traveling.

- Work with money. When shopping, let your child pay for items with exact amounts. Younger children can make patterns with coins and count the amount they have. For older children, calculate tips, discuss gas price comparisons and currency conversions when traveling. Provide experience with debit accounts.

- Use shopping to have conversations about math. Have younger children budget and ask them if they have enough money to pay for the item they want. Ask them to calculate how much they would have left after buying the item. Older children

can look at the unit price or price per pound and calculate the costs. Have them find the better buy for their money.

- Practice measurement at home with cooking, laundry, or discussions about household projects such as painting or working on a new floor.

- Get to know their video game interests. Chances are the level achievements in their games correlate to numeric advances.

Be creative and have fun with your child! More ideas for your child's grade level can be found at the following links:

https://www.parent.co/how-to-help-kids-practice-using-math-in-real-life/
https://www.education.com/activity/
https://www.weareteachers.com/15-fun-ways-to-practice-math/
https://www.thinkthroughmath.com/math-real-life-examples/
http://www.parents.com/kids/education/math-and-science/playful-math-activities-for-preschoolers/

Summer Math Review Packet is included on the following page.

Name _____

Topics **1–8**
End-of-Year Assessment

1. Which list of numbers is ordered from greatest to least?

Ⓐ $-2\frac{1}{5}, 2\frac{1}{4}, 2.23, -2$

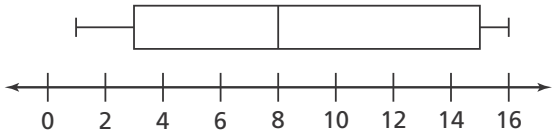
Ⓑ $2\frac{1}{4}, 2.23, -2, -2\frac{1}{5}$

Ⓒ $-2, -2\frac{1}{5}, 2\frac{1}{4}, 2.23$

Ⓓ $-2\frac{1}{5}, -2, 2.23, 2\frac{1}{4}$

2. Henry is buying orange juice to make punch for a party. He can buy the juice in 32-oz cartons for $2.56 each or 48-oz cartons for $3.36 each. Which is the better value? Explain.

3. Find the following measures of the data set shown in the box plot below.



minimum: ☐

maximum: ☐

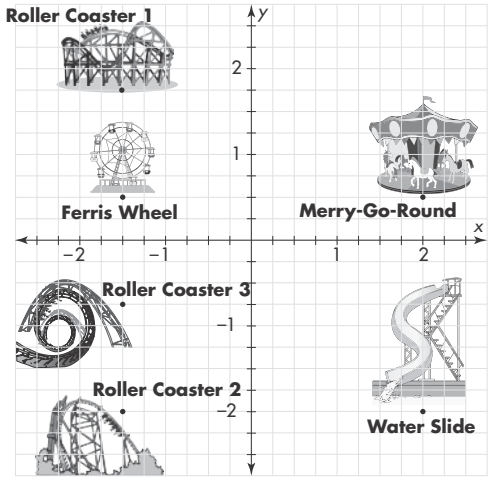
median: ☐

first quartile: ☐

third quartile: ☐

interquartile range: ☐

4. Use the map of the amusement park.



Part A

What are the coordinates of the Ferris Wheel?

Part B

What is located at (−1.5, −2)?

5. For questions 5a–5d, choose Yes or No to tell if the expressions are equivalent.

5a. $14d + 21$ and $7(2d + 3)$ ○ Yes ○ No

5b. $9(5r - 2)$ and $14r - 7$ ○ Yes ○ No

5c. $8(6q - 9)$ and $48q - 72$ ○ Yes ○ No

5d. $32t + 16$ and $16(2 - t)$ ○ Yes ○ No

6. A gym charges a one-time fee of $60 to join and membership dues of $25 per month.

Part A

Complete the table to show how the total cost in dollars, *C*, and the number of months, *m*, of gym membership are related.

m	3	8	14
C			

Part B

Write an equation to represent the total cost based on the number of months of gym membership.

7. Which of the following is a statistical question?

Ⓐ How tall is Mr. Leung?

Ⓑ What are the ages of all your cousins?

Ⓒ What is the formula for the volume of a cube?

Ⓓ What is the school's address?

8. Solve the equation.

$\frac{x}{8} = 0.625$

9. Rachel is making nachos for a party. The recipe calls for $\frac{2}{3}$ cup of cheese for each plate of nachos.

Part A

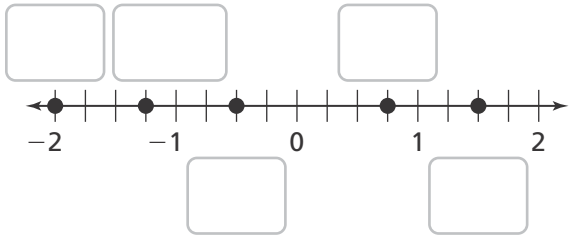
How many full plates of nachos can Rachel make with 5 cups of cheese? Explain.

Part B

How many more cups of cheese would Rachel need to make 9 plates of nachos? Explain.

10. Fill in the boxes to plot the five rational numbers below on the number line.

$-0.5, \frac{3}{2}, 0.75, -\frac{10}{5}, -1.25$



11. The boiling point of water is 212°F. What is this temperature in degrees Celsius? Use the formula $C = \frac{5}{9}(F - 32)$, where C represents the temperature in degrees Celsius and F represents the temperature in degrees Fahrenheit.

Ⓐ 0°C

Ⓑ 100°C

Ⓒ 212°C

Ⓓ 324°C

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12. A small theater sold 72 tickets for a play. The ratio of adult tickets to child tickets was 4:1. The ratio of adult tickets to senior tickets was 4:3.

Part A

Draw a diagram or make a table to represent the types of tickets sold.

Part B

How many of each type of ticket were sold?

13. Draw lines to match the coordinates of each point with the coordinates of its reflection across the *x*-axis.

(−2, 7)	(7, −2)
(3, 9)	(−3, 9)
(7, 2)	(3, −9)
(−3, −9)	(−2, −7)

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14. The drama club spent $608 on food for a party for its 38 members. Let a be the amount spent on food per person.

Part A

Write an equation to represent how much was spent on food per person.

Part B

Solve your equation to find how much the club spent on food per person.

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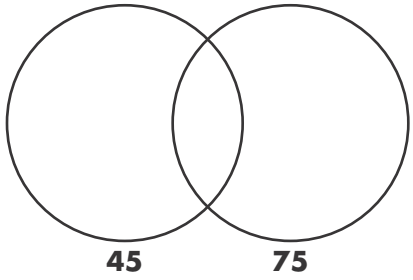
15. Complete the Venn diagram to show the common factors of 45 and 75. Then circle the greatest common factor.



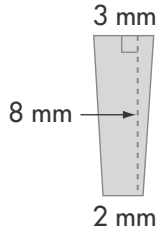
16. Which of the following expressions have a value of 6? Select all that apply.

- ☐ $(78 \div 3) - 2^4$
- ☐ $(2.3)^2 + 0.71$
- ☐ $-|-6|$
- ☐ $|-6|$
- ☐ $7^2 - 3.1 - 19 \times 2.1$

17. Draw lines to match each division expression on the left with its quotient on the right.

494 ÷ 95	5.1
136.8 ÷ 24	5.2
96.9 ÷ 19	5.4
43.2 ÷ 8	5.7

18. What is the area of this trapezoid?



Ⓐ 8 mm^2 Ⓒ 20 mm^2

Ⓑ 16 mm^2 Ⓓ 40 mm^2

19. Caroline's baby sister weighs 3,415 grams. What is her weight in kilograms?

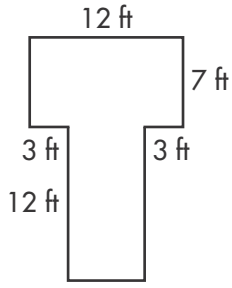
Ⓐ 341.5 kg

Ⓑ 34.15 kg

Ⓒ 3.415 kg

Ⓓ 0.3415 kg

20. Meredith drew the shape shown below.



Find the area of the shape. Explain.

21. Chang used a coordinate plane to show where his posters are displayed on his bedroom wall. Three posters are located at $E(5, 3)$, $F(-4, 3)$, and $G(-4, 5)$.

Use absolute values of coordinates to find the distances between points E and F, and between points G and F. Show your work.

22. Which equation has a graph that includes the point (4.5, 14)? Select all that apply.

- ☐ $y = 2x + 5$
- ☐ $y = 3x + 1.5$
- ☐ $y = 4x - 4$
- ☐ $y = 5x - 8.5$
- ☐ $y = \frac{1}{2}x + 10$

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23. The table shows the relationship between the number of girls and the number of boys in a middle school chorus. Complete the table.

Chorus Members

Girls	Boys
7	5
14	10
21	
	20
35	

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24. What is the volume of a rectangular prism with $\ell = 4\frac{1}{2}$ cm, $w = 3\frac{1}{2}$ cm, and $h = 6$ cm?

Ⓐ $90\frac{1}{2}$ cubic centimeters

Ⓑ $94\frac{1}{2}$ cubic centimeters

Ⓒ 95 cubic centimeters

Ⓓ $95\frac{1}{2}$ cubic centimeters

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25. Which inequality represents the situation described below?

The distance, d, is less than 200 miles.

Ⓐ $d \geq 200$ Ⓒ $d \leq 200$

Ⓑ $d > 200$ Ⓓ $d < 200$

26. The number of students in each of the classes that Julia is taking and each of the classes that Mason is taking are shown below.

Julia's classes: 25, 23, 28, 32, 27

Mason's classes: 20, 26, 24, 31, 29

Which of the following statements are true? Select all that apply.

- ☐ The mean is greater for Mason's classes than for Julia's classes.
- ☐ For both sets of data, the median is equal to the mean.
- ☐ The mean absolute deviation (MAD) is greater for Julia's classes than for Mason's classes.
- ☐ The interquartile range (IQR) is greater for Mason's classes than for Julia's classes.
- ☐ The numbers of students in Julia's classes are less spread out than those in Mason's classes.

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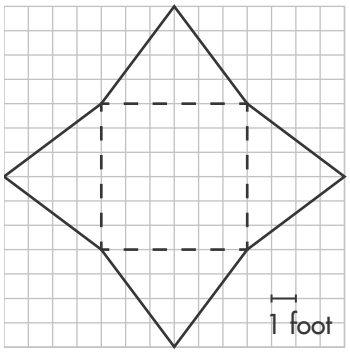
27. Ms. Wertz graded 20% of the tests for her class in 16 minutes. How many minutes will it take to grade all of the tests? Explain.

28. Logan used the net below to design a nylon tent.



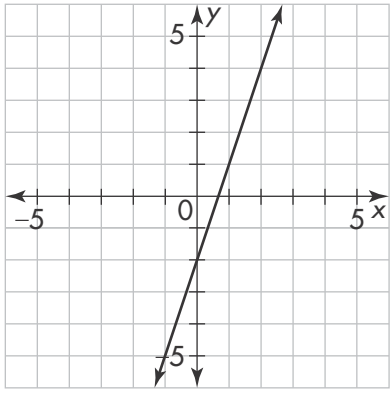
Part A

What shape will the tent have?

Part B

How much nylon will Logan need to make the tent? Explain.

29. Which equation describes the graph?



Ⓐ $y = x - 2$ Ⓒ $y = 3x - 2$

Ⓑ $y = 2x - 3$ Ⓓ $y = 3x + 2$

30. The area of the rectangular floor in Tamara's room is $95\frac{5}{6}$ square feet. The width of the room is $8\frac{1}{3}$ feet.

Part A

Estimate the length of Tamara's room. Explain.

Part B

Find the exact length of Tamara's room. Was your estimate an overestimate or an underestimate?

Part C

Suppose the ceiling is 12 feet high. If Tamara orders 480 square feet of wallpaper, will she have enough to cover all four walls? Explain.

