Summer Math Practice

Dear Students and Families,

As we head into summer, we want to encourage all students to continue practicing their math skills to stay sharp and confident for the upcoming school year. The enclosed summer math packet has been carefully designed to help reinforce key concepts we've learned this year while also preparing students for what's ahead.

Completing this packet will help prevent the "summer slide," where important skills can fade without practice. The goal is not to rush, but to work thoughtfully and consistently. I recommend setting aside a small amount of time each week to complete a portion of the packet. This approach helps build strong habits and reduces stress.

Students should show their work whenever possible and try their best on each problem. It's okay if some questions feel challenging—that's part of learning! Students can review notes from the school year, watch videos, use online resources, or ask for help from a family member.

The completed packet will be due at the beginning of the next school year and may be used as part of a review or assessment. More importantly, it will help students return to school feeling prepared and confident.

Thank you for your support in helping make math a part of your summer routine. I hope you all have a fun, relaxing, and safe summer!

Kindly,
Kaylie Pilla
Middle School Math Teacher

Rising Foundations Summer Math Work

1. Complete the statements.

_____ is 10 times as great as 20,000.

_____ is $\frac{1}{10}$ of 20,000.

2. Write the number in two other forms.

Word form: two and five hundred eighty-six thousandths

Standard form:

Expanded form:

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3. Write the words as an expression. Then interpret the expression.

Add 79 and 97, then multiply by 3.

4. Round 2.486 to the nearest hundredth.

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5. Compare.

5.744 ◯ 5.074

6. Find the sum.

$$\begin{array}{r} 2.1 \\ +\ 5.8 \\ \hline \end{array}$$

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7. Find the value of 6×10^3.

8. Evaluate $(47 - 29) \times (17 + 4)$.

Find the product.

9.

$$\begin{array}{r} 4{,}929 \\ \times \quad 124 \\ \hline \end{array}$$

10. $19.236 \times 10^3 =$ _____

Divide.

11. $7{,}409 \div 31 =$ _____

12. $5.1 \div 2 =$ _____

13. Add.

$$2\frac{5}{6} + 8\frac{2}{3} = _____$$

14. Multiply. Write your answer in simplest form.

$$\frac{9}{5} \times \frac{3}{8} = _____$$

15. Divide.

$$4 \div \frac{1}{8} = _____$$

16. Convert the capacity.

50 fl oz = _____ c

17. Without calculating, tell whether the product $5 \times \frac{4}{5}$ is *less than*, *greater than*, or *equal to* each of its factors.

$5 \times \frac{4}{5}$ is _____ 5.

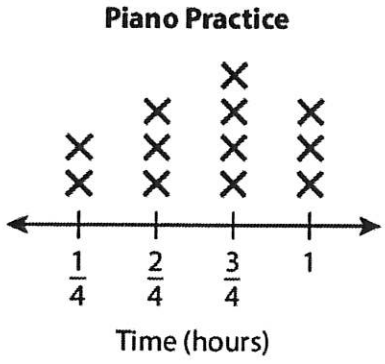
$5 \times \frac{4}{5}$ is _____ $\frac{4}{5}$.

18. A geologist needs $\frac{7}{10}$ cup of volcanic sand to perform an experiment. She has $\frac{9}{10}$ cup of quartz sand. She has $\frac{2}{5}$ cup more quartz sand than volcanic sand. Can she perform the experiment?

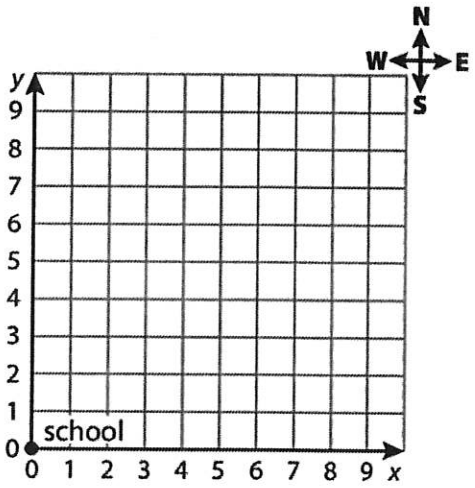
19. A recipe calls for $1\frac{3}{4}$ cups of honey per serving. You have 5 cups of honey. You want to make $2\frac{1}{2}$ servings. Do you have enough honey?

20. A jogger jogs 7 miles in 3 days. She jogs the same distance each day. How far does she jog each day? Write your answer as a mixed number in simplest form.

21. You record the amounts of time you practice the piano each day for 12 days. Your friend practices the same total amount of time, but for an equal number of hours each day. How long does your friend practice each day?



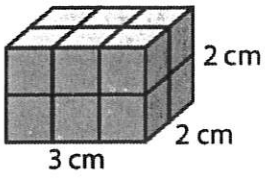
22. A firehouse is located 2 miles east and 8 miles north of school. Plot and label the firehouse.



Each unit represents 1 mile.

23. A container is a rectangular prism. The area of the base is 9 square feet. The height is 8 feet. Can the container hold 74 cubic feet of sand?

24. Find the volume of the figure.



Volume = _____ cubic centimeters

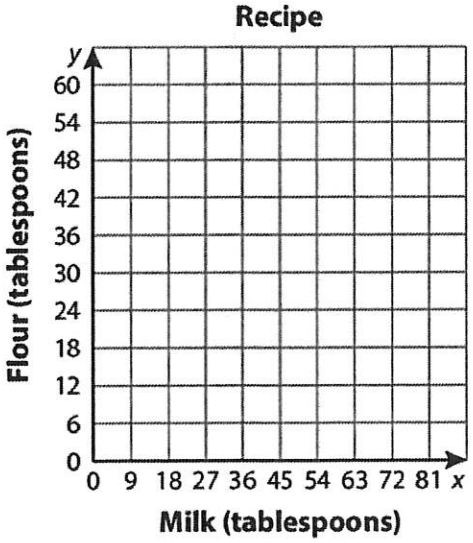
25. Tell whether the statement is *true* or *false*.

Some rhombuses are trapezoids.

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26. A recipe calls for 9 tablespoons of milk for every 6 tablespoons of flour. Complete the table. Then plot the ordered pairs from the table.

Milk (tablespoons)	9	18	27	36	45
Flour (tablespoons)	6	12			



Answers

1. 200,000, 2,000

2. 2.586, $2 \times 1 + 5 \times \frac{1}{10} + 8 \times \frac{1}{100} + 6 \times \frac{1}{1{,}000}$

3. $(79 + 97) \times 43$, The value of the expression is 3 times the sum $79 + 97$.

4. 2.49

5. >

6. 7.9

7. 6,000

8. 378

9. 611,196

10. 19,236

11. 239

12. 2.55

13. $11\frac{3}{6}$, or $11\frac{1}{2}$

14. $\frac{27}{40}$

15. 32

16. $6\frac{1}{4}$

17. less than, greater than

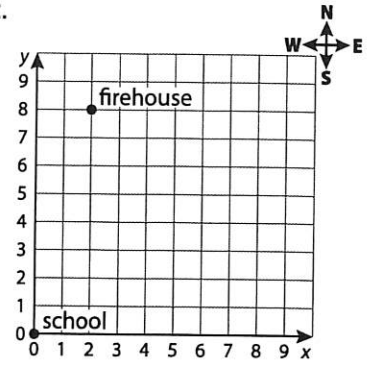
18. no

19. yes

20. $2\frac{1}{3}$ miles

21. $\frac{2}{3}$ hour

22.



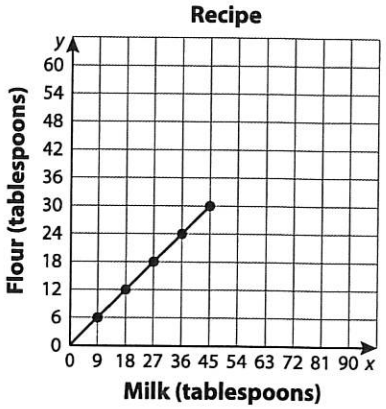
Each unit represents 1 mile.

23. no

24. 12

25. false

26. 18, 24, 30;



Summer Math Tracker

Directions:

- Watch video lessons by scanning the QR codes.
- Take notes and complete the provided practice worksheets.
- Check off that you have completed the video and the work for that topic.

Mr. J's YouTube Math Channel Search this channel for different middle school math topics.	Khan Academy Search this resource for videos and extra practice activities.

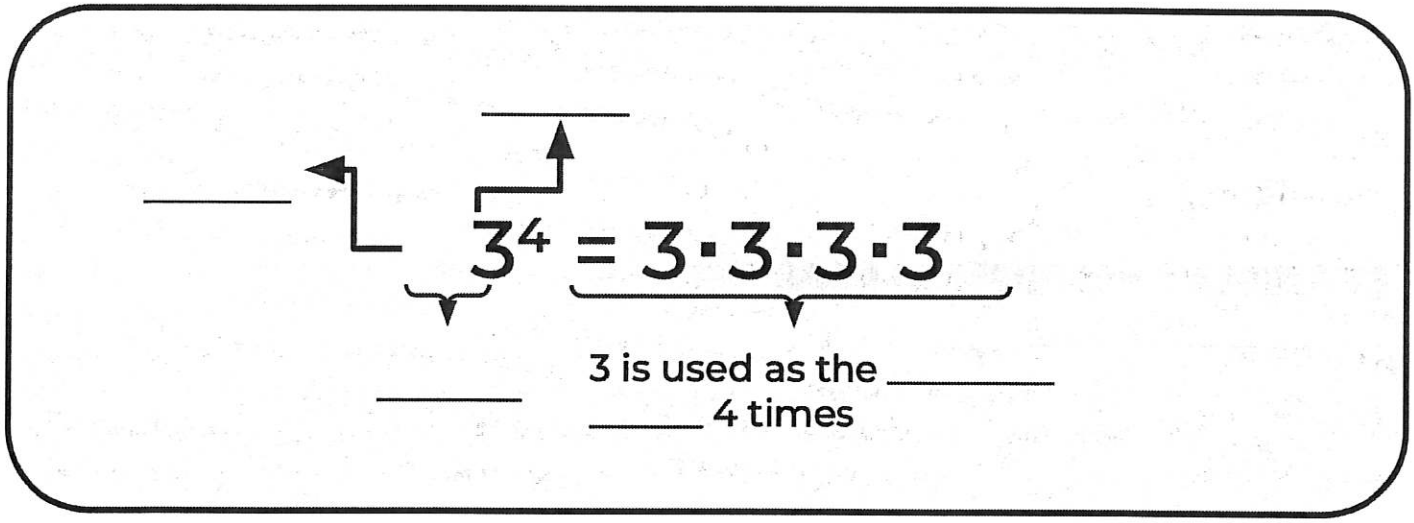
1.1 Powers & Exponents ☑Completed: ☐ Yes	1.2 Order of Operations ☑Completed: ☐ Yes	1.3 Properties ☑Completed: ☐ Yes
1.4 Prime Factorization ☑Completed: ☐ Yes	1.5 Greatest Common Factor ☑Completed: ☐ Yes	1.6 Least Common Multiple ☑Completed: ☐ Yes

NAME: PERIOD:

1.1 POWERS & EXPONENTS

VOCAB

- POWER - A _____ OF REPEATED _____
- BASE OF A POWER - THE _____ FACTOR
- EXPONENT OF A POWER - INDICATES THE _____ OF TIMES THE _____ IS USED AS A _____



POWER	WORDS
3^2	Three _____ or three to the _____
3^3	Three _____ or three to the _____
3^4	Three to the _____
3^5	Three to the _____

Example 1 - Writing Expressions as Powers

Write each product as a power.

A. $7 \cdot 7 \cdot 7 \cdot 7 \cdot 7 =$ _____

B. $12 \times 12 \times 12 =$ _____

C. $100 \cdot 100 \cdot 100 \cdot 100 \cdot 100 \cdot 100 =$ _____

Example 2 - Finding Values of Powers

Find the value of each power.

A. $7^2 =$

B. $5^3 =$

Example 3 - Identifying Perfect Squares

Determine whether each number is a perfect square.

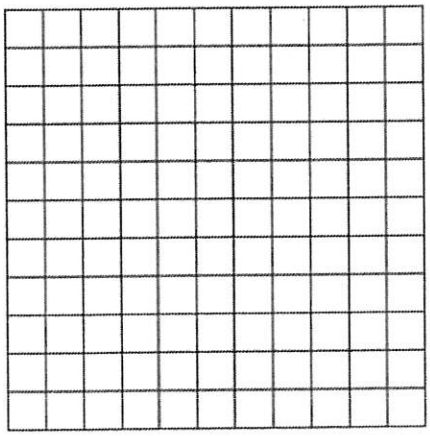
A. 64

B. 20

Example 4 - Modeling Real Life

You can use powers to find areas of squares because all sides are the same length. Area is measured in square units. The area of a square is equal to its side length squared.

A life-size Monopoly game board is a square with a side length of 11 yards. What is the area of the game board?



NAME: PERIOD:

1.2 ORDER OF OPERATIONS

VOCAB

- NUMERICAL EXPRESSION - AN EXPRESSION THAT CONTAINS _____ AND _____
- EVALUATE - TO FIND THE _____ OF A NUMERICAL EXPRESSION
- ORDER OF OPERATIONS- THE ORDER IN WHICH WE PERFORM _____ (ADDING, SUBTRACTING, MULTIPLYING, DIVIDING, ETC.) WHEN _____ EXPRESSIONS

P
E
M D
A S

Example 1 - Using Order of Operations

Evaluate $12 - 2 \times 4$.

Evaluate $60 \div [(4 + 2) \times 5]$

Example 2 - Using Order of Operations with Exponents

Evaluate $30 \div (7 + 2^3) \times 6$

The symbols · and × are used to show multiplication. You can also use parentheses!

3 (2 + 7) is the same as 3 × (2 + 7)

Example 3 - Using Order of Operations

Evaluate the following.

$$9 + \frac{8 - 2}{3}$$

1.3 Properties

Two expressions with the same value are **expressions.**

Key Concept

Commutative Properties

Changing the _____ does not change the sum or _____.

$5 + 8 =$ $5 \cdot 8 =$

Associative Properties

Changing the _____ does not change the sum or _____.

$(7 + 4) + 2 =$ $(7 \cdot 4) \cdot 2 =$

Example 1 Using Commutative and Associative Properties

a. Evaluate $4 + (6 + 17)$.

$4 + (6 + 17) = (4 + 6) + 17$

b. Evaluate $22 + 19 + 8$.

$22 + 19 + 8 = 22 + 8 + 19$

$= (22 + 8) + 19$

1.3 Properties

Key Concept

Addition Property of Zero

The sum of any number and _____ is that number.

$7 + 0 = 7$

Multiplication Property of Zero

The product of any number and _____ is zero.

$9 \cdot 0 = 0$

Multiplication Property of One

The product of any number and _____ is that number.

$4 \cdot 1 = 4$

Example 2 Using Properties of Zero and One

Evaluate each expression.

a. $15 + 0 + 8$

$15 + 0 + 8 = (15 + 0) + 8$

$= 15 + 8$

b. $12 \cdot 1 \cdot 3$

$12 \cdot 1 \cdot 3 = (12 \cdot 1) \cdot 3$

$= 12 \cdot 3$

Example 2 Using Properties of Zero and One

Evaluate each expression.

c. $23 \times 15 \times 0$

$$23 \times 15 \times 0 = 23 \times (15 \times 0)$$
$$= 23 \times 0$$

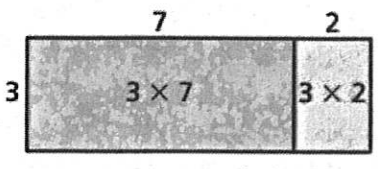
? SMP.7 "Is there a more efficient way to evaluate this expression? Explain."

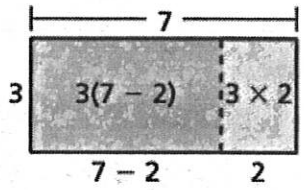
Key Concept

Distributive Property

To multiply a sum or difference by a number, _____ each number in the sum pr difference by the number _____ the parentheses. Then simplify.

$3(7 + 2) = 3 \times 7 + 3 \times 2$ $\qquad$ $3(7 - 2) = 3 \times 7 - 3 \times 2$





Example 3 Using the Distributive Property

Use the Distributive Property to evaluate each expression.

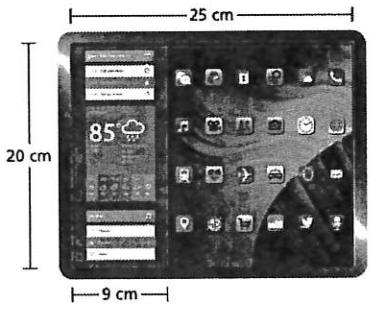
a. $6(9 - 4)$

b. $4(6 + 8 + 3)$

Example 4 Test Prep: Connecting to Real Life

Problem-Solving Plan: Understand the problem. → Make a plan. → Solve and check.

You design a new home screen for a tablet. The left side of the screen is for widgets, and the right side is for apps. What is the area of the screen that is for apps?



Ⓐ $180\ cm^2$ Ⓑ $275\ cm^2$ Ⓒ $320\ cm^2$ Ⓓ $491\ cm^2$

Verbal Model

(Length of screen (centimeters) − Length for widgets (centimeters)) × Width of screen (centimeters)

Name_____ Date _____ Score _____/10

Chapter 1 Mid Chapter Check

1. Write $14 \cdot 14 \cdot 14 \cdot 14 \cdot 14 \cdot 14$ as a power: _____

2. Find the value of 3^3: _____

3. Determine whether 39 is a perfect square. Explain your thinking.

4. Evaluate $18 - 2(10 + 8) \div 6^2$.

5. A square patio has an area of 225 square feet. Find the side lengths of the patio.

6. A square vegetable garden has side lengths of 14 feet. You plant flowers in the center portion of the garden, a square that has side lengths of 8 feet. You divide the remaining space into 4 equal sections and plant tomatoes, onions, zucchini, and peppers. What is the area of the tomato section?

NAME: PERIOD:

1.4 PRIME FACTORIZATION

VOCAB

- FACTOR PAIR - A SET OF _____ NONZERO NUMBERS WHOSE _____ RESULTS IN A DEFINITE NUMBER
- PRIME NUMBER - A POSITIVE WHOLE NUMBER THAT ONLY HAS _____ FACTORS: ONE AND _____
- COMPOSITE NUMBER - A POSITIVE WHOLE NUMBER THAT HAS _____ THAN TWO FACTORS
- PRIME FACTORIZATION - WRITING A COMPOSITE _____ AS A _____ OF ITS PRIME _____
- FACTOR TREE - A _____ USED TO FIND THE _____ OF A COMPOSITE NUMBER

EXAMPLE 1 - FINDING FACTOR PAIRS

The brass section of a marching band has 30 members. The band director arranges the brass section in rows. Each row has the same number of members. How many possible arrangements are there? Use the factor pairs of 30 to find the number of arrangements.

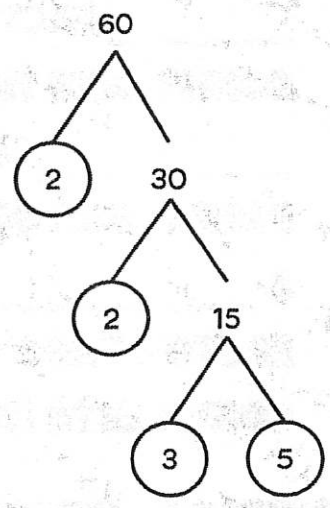
PRIME FACTORIZATION

Remember that the prime factorization of a composite number is that number written as a product its prime factors. You can use factor pairs and a factor tree to help find the prime factorization of a number. The factor tree is only complete when only prime numbers appear in the product. A factor tree for the number 60 is shown.

EXAMPLE 2 - WRITING A PRIME FACTORIZATION

Write the prime factorization of 48.

FACTOR TREE



$60 = 2 \times 2 \times 3 \times 5$

EXAMPLE 3 - USING A PRIME FACTORIZATION

What is the greatest perfect square that is a factor of 1575?

NAME: PERIOD:

1.5 GREATEST COMMON FACTOR

VOCAB

- VENN DIAGRAM - A DIAGRAM THAT USES _____ TO DESCRIBE _____ BETWEEN TWO OR MORE SETS
- COMMON FACTORS - FACTORS THAT ARE _____ BY TWO OR MORE _____
- GREATEST COMMON FACTOR - THE _____ VALUE OF THE COMMON FACTORS

EXAMPLE 1 - FINDING THE GCF USING LISTS OF FACTORS

Find the GCF of 24 and 40.

One way to find the GCF is to make a list of all factors for each number. The greatest in both lists is the GCF.

EXAMPLE 2 - FINDING THE GCF USING PRIME FACTORIZATIONS

Find the GCF of 12 and 56.

Another way to find the GCF of 2 or more numbers is by using prime factors. The GCF is the product of the common prime factors of the numbers.

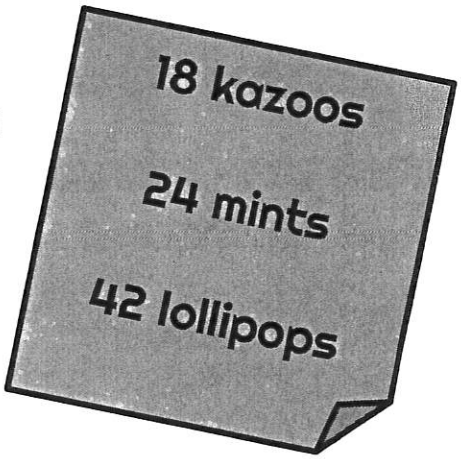
Example 3 - Finding Two Numbers With a Given GCF

Which pair of numbers has a GCF of 15?

A. 10 and 15
B. 30 and 60
C. 21 and 45
D. 45 and 75

Example 4 - Modeling Real Life

You are filling piñatas for your friend's birthday party. The list shows the gifts you are putting into the piñatas. You want identical groups of gifts in each piñata with no gifts left over. What is the greatest number of piñatas you can make?



NAME: PERIOD:

1.6 LEAST COMMON MULTIPLE

VOCAB

- MULTIPLE - A NUMBER THAT CAN BE EVENLY _____ BY ANOTHER NUMBER WITHOUT LEAVING A _____
- COMMON MULTIPLES - MULTIPLES _____ BY TWO OR MORE _____
- LEAST COMMON MULTIPLE - THE _____ VALUE MULTIPLE SHARED BY TWO OR MORE _____

EXAMPLE 1 - FINDING THE LCM USING LISTS OF MULTIPLES

Find the LCM of 4 and 6 by listing the multiples of each number.

MULTIPLES OF 4 :

MULTIPLES OF 6:

EXAMPLE 2 - FINDING THE LCM USING PRIME FACTORIZATION

Find the LCM of 16 and 20 by making a factor tree for each number.

1. Make a factor tree
2. Write the prime factorization
3. Circle each factor where it appears the greater number of times.

Example 3 - Finding the LCM of three numbers

Find the LCM of 4, 15, and 18.

Example 4 - Modeling real life

One firefly flashes every 8 seconds. Another firefly flashes every 10 seconds. Both fireflies just flashed at the same time. After how many seconds will both fireflies flash at the same time again?

The LCM of the times represents the number of seconds it will take for the fireflies to flash at the same time.

Name_____ Date _____ __ Score _____/10

Chapter 1 End of Unit Check

1. List the factor pairs of 46: _____

2. Write the prime factorization of 153. Show your thinking.

3. Find the GCF of 36 and 82. Show your thinking.

4. Find the LCM of 6 and 10. Show your thinking.

5. You are filling bags with cookies to give to your friends. You have 18 chocolate chip cookies, 24 peanut butter cookies, and 48 oatmeal cookies. You want identical groups of cookies in each bag with no cookies left over. What is the greatest number of bags you can fill?