

Name: \_\_\_\_\_



## Summer Break Packet

To our incoming middle schoolers,

We are so excited to meet you! We want you to be successful in 6th grade and we are giving you this summer break packet so that you can practice the math topics you've learned last year. This will well prepare you for the new topics you will learn this school year!

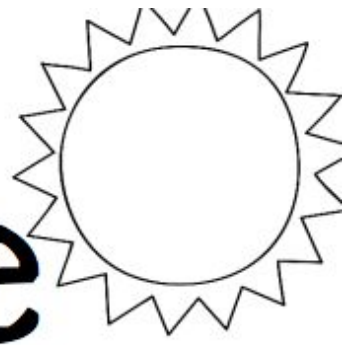
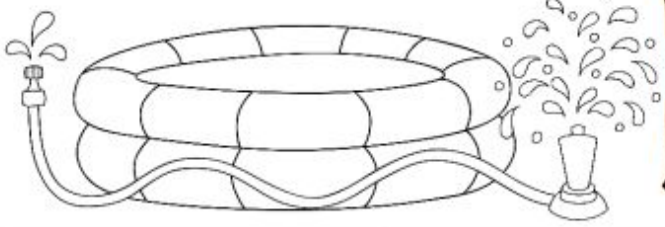
We have labeled a notes section for each topic you are working on and put a QR code for a YouTube video that relates to this topic.

Your summer break packet will be due on the first day of classes and will be your first graded assignment in your 6th grade math class. Please show all of your work in the work space given.

Here is a schedule to help you manage this assignment:

<b>6/28 - 7/3</b>	<b>7/4 - 7/10</b>	<b>7/11 - 7/17</b>	<b>7/18 - 7/24</b>	<b>7/25 - 7/31</b>
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<b>8/1 - 8/7</b>	<b>8/8 - 8/14</b>	<b>8/15 - 8/21</b>	<b>8/22 - 8/28</b>	<b>8/29 - 9/4</b>
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# MULTIPLY & Divide



## POWERS OF TEN

<p>1. Solve the equation:</p> $6 \times 10^4 = \underline{\quad}$ <p>A. 240 B. 24,000 C. 6,000 D. 60,000</p>	<p>2. What is the quotient of <math>10^5</math> divided by 100?</p> <p>A. 500 B. 1,000 C. 10,000 D. 5,000</p>	<p>3. Jake's road trip was <math>2 \times 10^3</math> miles to his destination. How many miles did Jake travel?</p> <p>A. 20 miles B. 200 miles C. 2,000 miles D. 20,000 miles</p>	<p>4. Solve the equation:</p> $0.89 \times \underline{\quad} = 890$ <p>A. <math>10^3</math> B. <math>10^2</math> C. 100 D. <math>10^4</math></p>
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### Notes:

To multiply by a power of 10, simply move the decimal to the **right** the same number of places as the exponent or as the number of zeros.

Example:

$$32.5 \times 10^4 = 325 \overset{\text{-----}}{\rightarrow} = 325,000.$$

To divide by a power of 10, simply move the decimal to the **left** the same number of places as the exponent or as the number of zeros.

Example:

$$\frac{674}{1000} = \overset{\text{-----}}{\leftarrow} 674 = 0.674$$

(Note: The decimal of a whole number is always to the right of the one's place.)



### Workspace:

# MULTIPLYING Whole Numbers



1 Mr. Perino plants 15 rows of tomato plants. If there are 32 tomato plants in each row, how many plants will he have altogether?

\_\_\_\_\_

2 Laura baked 8 pans of brownies. Two of the pans held 15 brownies each and six of the pans held 18 brownies each. How many brownies did Laura bake in all?

\_\_\_\_\_

3 A store sells 108 different colors of yarn. They have 22 rolls of each color in stock. How many rolls of yarn does the store have in stock?

\_\_\_\_\_

## Notes:

$$\begin{array}{r} 46 \\ \times 37 \\ \hline 322 \\ 1380 \\ \hline 1702 \end{array}$$

Partial product

Partial product

$$\begin{array}{r} 46 \\ \times 3 \\ \hline 138 \end{array}$$



## Workspace:

# DIVIDING

## Whole Numbers



1. Kasey picked 540 blueberries to sell at the Farmer's Market. She sorts her blueberries evenly into 9 small baskets. How many blueberries will she put in each basket?

\_\_\_\_\_

2. The fifth grade class took a field trip to a local theater. There were 168 students. The theater had 14 seats in each row. How many rows did they use?

\_\_\_\_\_

3. Mrs. Smith is putting 100 apples into crates. Each crate will hold 12 apples. How many apples will be left over after filling each crate?

\_\_\_\_\_



### Long Division with McDonalds

- Does** → Divide
- McDonalds** → Multiply
- Sell** → Subtract
- Cheese** → Check
- Burgers** → Bring down

$$\begin{array}{r}
 362 \\
 4 \overline{) 1,448} \\
 \underline{-12} \phantom{0} \\
 24 \\
 \underline{-24} \\
 008 \\
 \underline{-8} \\
 0
 \end{array}$$



**Workspace:**



# Order of OPERATIONS

Solve the expression

$$7 + (5 + 2) = \underline{\quad}$$

Solve the expression

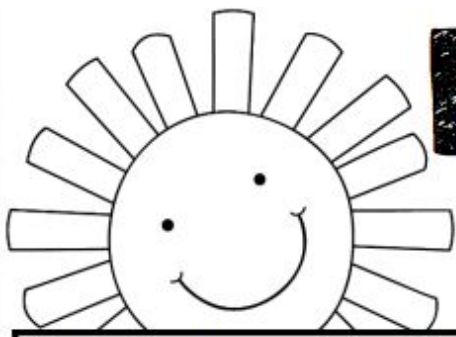
$$24 - (3 \times 2) + 2 = \underline{\quad}$$

Solve the expression

$$[(50 \times 2) - 10] + 5 = \underline{\quad}$$

P	Parentheses	( )	
E	Exponents	$e^2$	
M	Multiplication	$\times$	whichever comes first
D	Division	$\div$	Left ..... Right $M^{\times}$ ..... $D^{\div}$
A	Addition	+	whichever comes first
S	Subtraction	-	Left ..... Right $A^{+}$ ..... $S^{-}$





# READ & WRITE DECIMALS

1. How is the number 0.43 read?

- A. Forty three hundredths
- B. Forty three
- C. Forty three tenths
- D. decimal forty three

2. How is the number seventy five thousandths written?

- A. 75,000
- B. .750
- C. 75.000
- D. .075

3. Which of the following fractions represents the number .35?

- A.  $\frac{3}{5}$
- B.  $\frac{35}{100}$
- C.  $\frac{0}{35}$
- D.  $\frac{10}{35}$



# ROUNDING Decimals

1. Round the following number to the nearest tenth.

**4.782**

2. Round the following number to the nearest hundredth.

**50.932**

3. Round the following number to the nearest tenth.

**75.243**



# COMPARING & Ordering Decimals

1. Which of the following numbers is the greatest?

- A. 3.25
- B. 0.523
- C. 32.5
- D. 0.325

2. Which of the following numbers is the least?

- A. 0.125
- B. 0.521
- C. 0.215
- D. 0.115

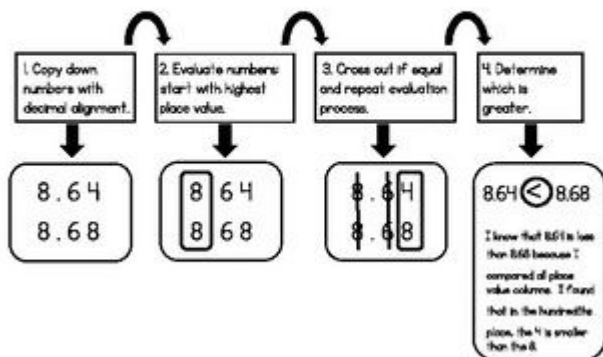
3. Which of the following numbers is greater than seventy five thousandths?

- A. 0.09
- B. 0.074
- C. 0.0750
- D. 0.069

## Notes:

### Comparing Decimals

$$8.64 \bigcirc 8.68$$



## Workspace:

# INTERPRETING FRACTIONS



1. Five groups at summer camp have a total of 27 boxes of popsicles to share. How many boxes will each group receive?

\_\_\_\_\_

2. If 16 is divided by 5, what fraction would represent the remainder?

\_\_\_\_\_

3. Suppose four friends want to share five cookies equally. How many cookies would each friend receive?

\_\_\_\_\_



**Workspace:**





# Add & Subtract FRACTIONS

Read the directions in each box below. Write all answers in simplest form.

1. To add the fractions  $\frac{5}{12}$  and  $\frac{3}{4}$ , what must first be done?

- a) change the fractions to improper fractions
- b) reduce the fractions to the lowest terms
- c) find a common denominator
- d) make the numerators the same

2. Find the sum.

$$\frac{1}{2} + \frac{1}{4} =$$

\_\_\_\_\_

3. Find the difference.

$$\frac{2}{3} - \frac{1}{9} =$$

\_\_\_\_\_

## Notes:

Change both fractions to get the lowest common denominator of 12, and then add the numerators to get  $\frac{7}{12}$ .

$$\begin{array}{r} \frac{1}{4} = \frac{3}{12} \\ + \frac{1}{3} = \frac{4}{12} \leftarrow \text{(change both fractions to LCD of 12)} \\ \hline \frac{7}{12} \end{array}$$



## Workspace:

# MULTIPLYING FRACTIONS



Simplify all answers if possible.

1. Multiply

$$\frac{4}{5} \times \frac{2}{4} =$$

2. Multiply

$$5\frac{3}{4} \times \frac{1}{3} =$$

3. Multiply

$$\frac{5}{6} \times 7 =$$

4. Multiply

$$\frac{2}{3} \times 18 =$$

**Notes:**

$$\frac{1}{3} \times \frac{9}{16} = \frac{1 \times 9}{3 \times 16} = \frac{9}{48}$$

Simplify the fraction:

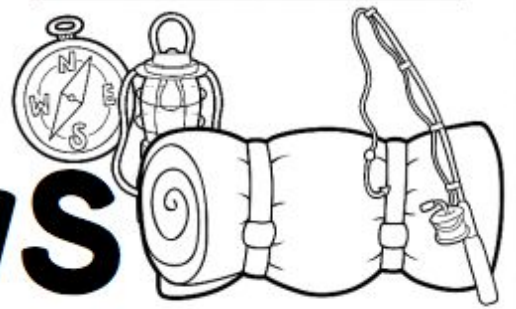
$$\frac{9}{48} = \frac{3}{16}$$



**Workspace:**



# DIVIDING FRACTIONS



$$1. \quad \frac{1}{4} \div \frac{9}{10} =$$

$$2. \quad \frac{5}{9} \div \frac{1}{2} =$$

$$3. \quad \frac{1}{3} \div \frac{6}{9} =$$

K C F

KEEP CHANGE FLIP

**Keep** the first fraction. If its mixed make it improper. If it's a whole number, make it a fraction.

**Change** the division symbol to a multiplication symbol

**Flip** the second fraction. Make the denominator the numerator. Make the numerator the denominator

Then work the problem just like a fraction multiplication problem. Simplify if you can.

Example:

$$\frac{1}{2} \div \frac{1}{6} = \frac{1}{2} \times \frac{6}{1} = \frac{1 \times 6}{2 \times 1} = \frac{6}{2} = 3$$



# PROBLEM SOLVING With Fractions!



Simplify all answers if possible.

1. April was making two different cakes. One recipe needed  $\frac{7}{4}$  cup of flour and other needed  $\frac{5}{4}$  cup of flour. How much flour did she need to make both cakes?

\_\_\_\_\_

2. Marcus had  $\frac{1}{7}$  of a bag of candy. Nick had  $\frac{2}{3}$  of a bag of candy. If the two friends combined their bags of candy how much would they have?

\_\_\_\_\_

3. Natalie plans to run 5 miles every week for 3 weeks. The first day of the first week she ran  $1\frac{1}{5}$  miles. How many miles does she need to run the rest of the first week?

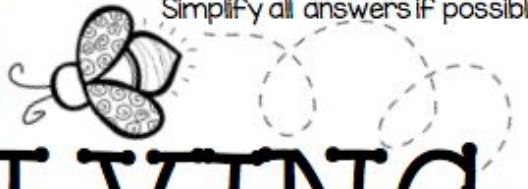
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**Workspace:**

# Real World

## PROBLEM SOLVING

Simplify all answers if possible.



1. Ellie has  $\frac{2}{8}$  pound of cheese. She used  $\frac{1}{2}$  of the cheese to make tacos. Since there are 16 ounces in one pound, how many ounces of cheese does Ellie use to make tacos?

2. There are  $3\frac{1}{2}$  groups of students ready to load buses for a field trip. Each group will fill one bus.  $\frac{2}{5}$  of the students on each bus are boys. How many buses would it take to carry only the boys?

3. Mark is going to a pool party. It is  $2\frac{3}{4}$  miles from his house. Mark decides to ride his bicycle, but he has a flat tire  $\frac{2}{3}$  of the way there. How far is Mark from his house?

**Workspace:**

# NUMERICAL Expressions



**Directions:** Match the numerical expressions with the verbal expressions below.

1. 3 times the sum of 27 and 9	2. 6 times the difference between 71 and 41	3. Triple the sum of 36 and 15	4. Seven less than the product of 9 and 9.
a) $3 + (27 + 9)$ b) $3 \times (27 + 9)$ c) $27 + (3 \times 9)$	a) $(71 - 41) \times 6$ b) $6 \times (71 + 41)$ c) $71 - 41 \times 6$	a) $36 + (3 \times 15)$ b) $3 + (36 \times 15)$ c) $3 \times (36 + 15)$	a) $9 \times 9 - 7$ b) $(7 - 9) \times 9$ c) $9 + (7 \times 9)$

Addition	Subtraction	Multiplication	Division
the sum of plus increased by more (than) and total of raised combined added to together add additional in all	the difference less than diminish minus decrease (by) go down subtract from reduce drop fewer than left lost taken from	multiplied times twice tripled doubled product	divided (by) average ratio quotient per part shared equally ___ out of ___ split



**Workspace:**

# ANALYZING PATTERNS



1. Complete the function table.

Rule  $\times 3$

Input	Output
1	
2	
5	15
8	
12	

2. Complete the function table.

Rule  $+4, \div 2$

Input	Output
2	
6	5
10	
24	
42	

3. Find the rule.

Rule: \_\_\_\_\_

Input	Output
11	2
16	3
26	5
46	9
61	12

4. Find the rule.

Rule: \_\_\_\_\_

Input	Output
8	30
10	38
16	62
22	86
50	80

**Workspace:**