

Sixth Grade 2017-2018

# Summer Math Packet

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

Math Teacher: \_\_\_\_\_

**Directions:** Complete the math packet without using a calculator. Show all work. Use separate sheets of paper if needed.

## Additional Practice

**\*\*Visit the CSS Backpack online for access to an enrichment packet for 6<sup>th</sup> grade Math\*\***

(\*\*not required\*\*)

<http://www.palmyraschools.com/ps/CSS/CSS%20Backpack/Enrichment%20Packets/>

IXL.com is a very helpful website to practice math concepts aligned to each grade level. There are free trials available that would be perfect for summer!

6<sup>th</sup> grade math: <https://www.ixl.com/math/grade-6>

★ Be sure to practice multiplication facts daily!!! ★



# Measuring Up

Convert each measurement. Use a calculator to check for accuracy.

12 inches (in.) = 1 foot (ft)

3 ft = 1 yard (yd)

- |                      |                     |                       |
|----------------------|---------------------|-----------------------|
| 1. 12 in. = _____ ft | 4. 24 ft = _____ yd | 7. 42 ft = _____ yd   |
| 2. 1 yd = _____ in.  | 5. 81 ft = _____ yd | 8. 11 ft = _____ in.  |
| 3. 8 ft = _____ in.  | 6. 12 yd = _____ ft | 9. 120 in. = _____ ft |

1 kilometer (km) = 1,000 meters (m)  
1 m = 10 decimeters (dm)

10 dm = 100 centimeters (cm)  
100 cm = 1,000 millimeters (mm)

- |                       |                       |                      |
|-----------------------|-----------------------|----------------------|
| 10. 8 cm = _____ m    | 13. 848 m = _____ km  | 16. 45 m = _____ dm  |
| 11. 15 km = _____ m   | 14. 45 dm = _____ m   | 17. 50 km = _____ dm |
| 12. 900 dm = _____ cm | 15. 100 dm = _____ mm | 18. 9 m = _____ cm   |

Metric units of weight are **milligrams (mg)**, **grams (g)**, and **kilograms (kg)**.

63 kg = _____ g	32 mg = _____ g	1 g = 1000 mg
1 kg = 1000 g	1 mg = 0.001 g	1 kg = 1000 g
63 kg = (63 x 1000) g	32 mg = (32 x 0.001) g	1 mg = 0.001 g
63 kg = 63,000 g	32 mg = 0.032 g	1 g = 0.001 kg

- |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| 19. 2000 mg = _____ g | 21. 250 mg = _____ kg | 23. 1500 mg = _____ g |
| 20. 4 kg = _____ g    | 22. 90 g = _____ mg   | 24. 18 g = _____ mg   |



# Geographic Wonders

What is the world's largest country? The largest desert? The smallest continent? Do this fraction match-up to discover the answers. Each geographic "wonder" listed below is followed by a fraction. Reduce the fraction to its lowest terms. Then correctly match it to one of the fractions in the right column and you'll find the name of the geographic wonder or its location. Write that name or place on the line.



→ Example:  $\frac{15}{20} = \frac{3}{4}$

## Geographic Wonders

- |                                 |                   |       |
|---------------------------------|-------------------|-------|
| 1. World's largest desert       | $\frac{39}{312}$  | _____ |
| 2. Largest country (land)       | $\frac{2}{18}$    | _____ |
| 3. World's largest city         | $\frac{19}{38}$   | _____ |
| 4. Highest waterfall            | $\frac{100}{110}$ | _____ |
| 5. Largest country (population) | $\frac{6}{30}$    | _____ |
| 6. Smallest continent           | $\frac{3}{21}$    | _____ |
| 7. Largest cave system          | $\frac{12}{18}$   | _____ |
| 8. World's highest mountain     | $\frac{3}{9}$     | _____ |
| 9. Second largest country       | $\frac{12}{48}$   | _____ |
| 10. World's longest river       | $\frac{5}{30}$    | _____ |

## Place

- |                 |                          |
|-----------------|--------------------------|
| $\frac{1}{7}$   | Australia                |
| $\frac{1}{5}$   | China                    |
| $\frac{1}{4}$   | Canada                   |
| $\frac{1}{8}$   | Sahara                   |
| $\frac{2}{3}$   | Mammoth - Flint Ridge    |
| $\frac{10}{11}$ | Salto Angel in Venezuela |
| $\frac{1}{6}$   | Nile                     |
| $\frac{1}{3}$   | Everest                  |
| $\frac{1}{9}$   | Russia                   |
| $\frac{1}{2}$   | Tokyo, Japan             |



# Money Problems

Use the necessary operations, such as addition, subtraction, multiplication, and division, to solve the following money word problems. Do your work on a separate sheet of paper.

**BOX YOUR FINAL ANSWER**

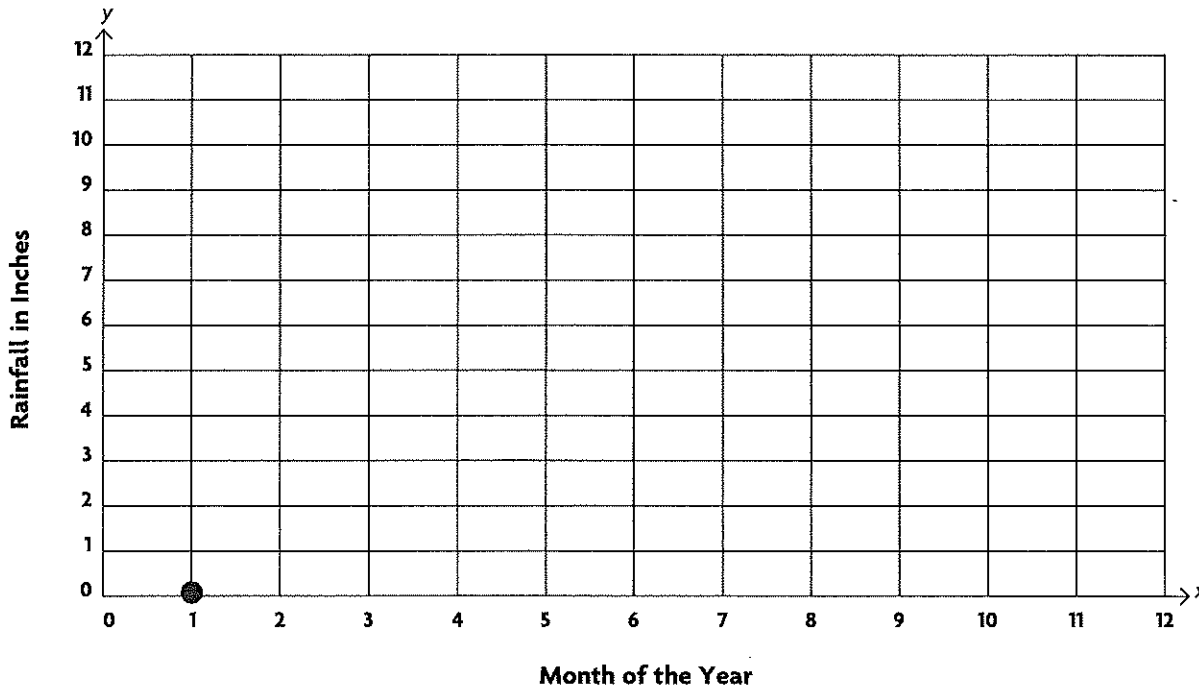
<p>1. Kia and Luc had \$20.00 each to spend at the mall. They planned to shop first, then see a movie. Kia bought a T-shirt for \$12.38; her movie ticket was \$6.75. Luc rented two video games for \$1.50 each, and his movie ticket was \$6.75. How much did each person spend in all at the mall?</p> <p>Kia _____ Luc _____</p>	<p>4. Frannie went to the local surf shop with \$40.00. She bought some board wax and a skim board. The board cost \$35.00, and wax cost \$1.75. How much money does Frannie have left?</p>
<p>2. Mark and Jon attend the same soccer camp. The camp costs \$195.00 per person, per week. The boys also have to pay their own travel costs to and from camp. If the boys ride up and back together, they only spend \$80.00 on gas. Find the total each boy will pay to cover camp and travel costs for a week.</p>	<p>5. Mrs. Carney owns a restaurant. She has several lunch specials on the menu that are only \$4.99 each. They include an entrée, a soup, and a beverage. This week, 72 customers ordered one of the specials. How much money did she make this week from the lunch specials?</p> <p>\$4.99 x 72</p> <hr/>
<p>3. Madison and Julia run a pet-sitting service for dogs. They charge \$4.00 for dog walking, \$12.00 for bathing, and \$25.00 for overnight boarding. If a customer orders a bath with overnight boarding, the girls charge \$30.00 for that combination. A new dog, Cash, is going to board overnight, have a bath, and go on two walks. What is the total cost for these services?</p>	<p>6. Mrs. Kaye owns a small amusement park with a water slide, a miniature golf course, and a two-mile zip line. A day pass for the water slide costs \$45.00. One round of golf costs \$15.00, and a zip line ride costs \$36.00. What will Mrs. Kaye earn today if she sells 5 zip-line tickets, 22 water-slide day passes, and 10 rounds of golf?</p>



# Plotting Coordinates on a Graph

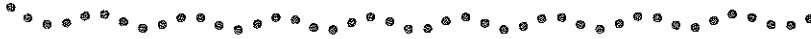
Plot each of the given ordered pairs on the coordinate plane below. Note: Ordered pairs or "coordinates" are written with respect to the *x* axis & *y* axis (*x*, *y*). See example given.

## Amy's Rainfall Record—2011



- |             |             |
|-------------|-------------|
| 1. (1, 0) ✓ | 7. (5, 10)  |
| 2. (3, 4)   | 8. (9, 3)   |
| 3. (6, 7)   | 9. (12, 1)  |
| 4. (8, 2)   | 10. (7, 2)  |
| 5. (2, 1)   | 11. (10, 5) |
| 6. (4, 12)  | 12. (11, 6) |



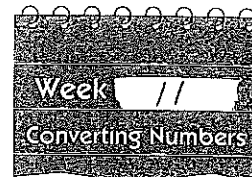
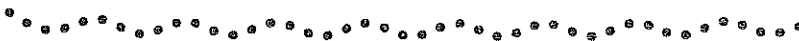


## Multiply It!

Solve each multiplication word problem. Write the answer in the space provided.

*show all work. Box your final answer.*

<p>1. Each day after school, Carlos purchases yogurt and a banana for a total of \$3.29. How much does Carlos spend on his snacks each <u>week</u>?</p> $  \begin{array}{r}  \overset{2}{\$}3.\overset{6}{2}9 \rightarrow 2 \text{ decimal places} \\  \times \quad 7 \rightarrow 0 \text{ decimal places} \\  \hline  23.\overset{2}{0}3 \quad \boxed{\$23.03}  \end{array}  $	<p>4. Mr. Richards sold 140 bushels of apples. If he receives \$15.50 per bushel, how much money did he earn?</p>
<p>2. In July, the aquarium sold 5 times as many tickets as it did in June. The aquarium sold 987 tickets in June. How many tickets did the aquarium sell in July?</p>	<p>5. Sally collected 7 times as many aluminum cans to recycle as Alan. Alan collected 2,999 aluminum cans. How many cans did Sally collect for the recycling drive?</p>
<p>3. Peter saw in a newspaper ad that shirts were on sale at the mall for \$23.45 each. If he purchased 6 shirts, how much would Peter spend?</p>	<p>6. Tony's printer is out of ink. Ink sets for his printer cost \$18.49 for the color ink pack and \$9.49 for the black ink pack. If Tony purchases 5 color packs and 9 black packs, how much will he spend in all?</p>



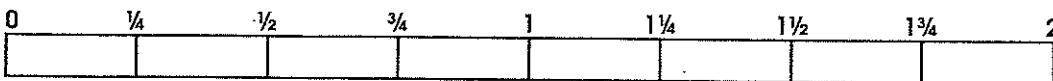
# Using a Number Line

Use the first set of number lines to answer questions 1 through 5 below. Then, use what you know about decimals, fractions, percents, and how to convert them to fill in the missing values in the number lines at the bottom of this page.

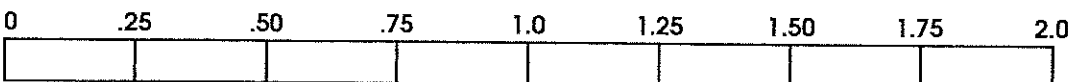
whole numbers:



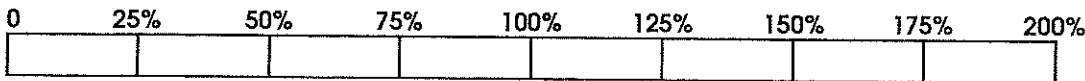
fractions:



decimals:



percents:

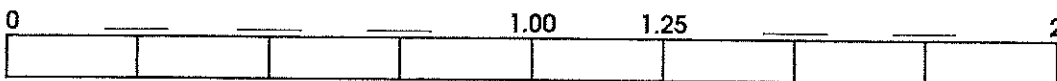


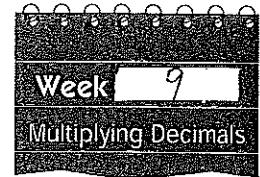
1. What are the fraction and decimal equivalents for 25%?  $\frac{f}{d}$  &  $\frac{d}{d}$
2. What is the decimal equivalent of 125%?  $\frac{d}{d}$
3. What is the same as  $\frac{1}{2}$  when represented as a decimal and percent?  $\frac{d}{d}$  &  $\frac{\%}{\%}$
4. What decimal amount is twice as much as 50%?  $\frac{d}{d}$
5. List the decimal and percent equivalents for the value halfway between  $\frac{1}{4}$  and  $\frac{3}{4}$ :  
 a) decimal: \_\_\_\_\_ b) percentage: \_\_\_\_\_

Fill in the missing fractions:



Fill in the missing decimals





# Multiplying Decimals

Review the rules for multiplying decimals. Then solve the problems.

### Rules

1. Multiply as you would whole numbers.
2. The number of decimal places in the product is the sum of the decimal places in the factors.

### Example:

Factor	.4	1 decimal place
Factor	<u>x .9</u>	1 decimal place
Product	.36	2 decimal places

**Remember:** When you see a problem presented horizontally, line up the numbers on the right. Do **not** line up the decimal points.

.35 x 0.8 =	Correct	Incorrect
	.35	.35
	<u>x 0.8</u>	<u>x 0.8</u>

1. 
$$\begin{array}{r} .6 \\ \times .4 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 6.8 \\ \times 0.35 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 4.8 \\ \times 7.7 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 2.23 \\ \times 0.337 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 9.4 \\ \times 7.6 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 9.27 \\ \times 6.6 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 5.6 \\ \times 7.6 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 1.6 \\ \times 0.797 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 3.1 \\ \times 6.3 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 2.2 \\ \times 9.49 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 2.9 \\ \times 6.15 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 0.72 \\ \times 5.79 \\ \hline \end{array}$$

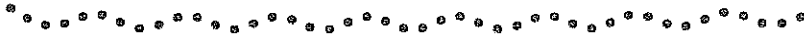
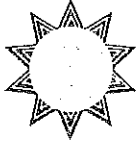
4. 
$$\begin{array}{r} 2.9 \\ \times 1.5 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 5.99 \\ \times 5.6 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 8.6 \\ \times 5.8 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 7.71 \\ \times 0.226 \\ \hline \end{array}$$





# Fraction Subtraction

Find each difference. Reduce. Study the example below.

**Example:**

$$6\frac{2}{3} = \frac{20}{3} \times \frac{4}{4} = \frac{80}{12}$$

$$-3\frac{1}{4} = \frac{13}{4} \times \frac{3}{3} = \frac{39}{12}$$

$$\frac{41}{12} = \boxed{3\frac{5}{12}}$$

1. Change any mixed numbers to improper fractions.
2. Find the least common denominator and rewrite fraction.
3. Subtract. Reduce if necessary.
4. *Box your final answer!*

$$\begin{array}{r} 1. \ 8\frac{3}{4} \\ -4\frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \ 16\frac{5}{8} \\ -4\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \ 6\frac{1}{2} \\ -5\frac{1}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 2. \ 10\frac{1}{3} \\ -2\frac{2}{5} \\ \hline \end{array}$$

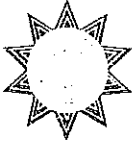
$$\begin{array}{r} 5. \ 8\frac{1}{2} \\ -3\frac{2}{7} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \ 14\frac{3}{8} \\ -5\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \ 9\frac{4}{5} \\ -7\frac{6}{10} \\ \hline \end{array}$$

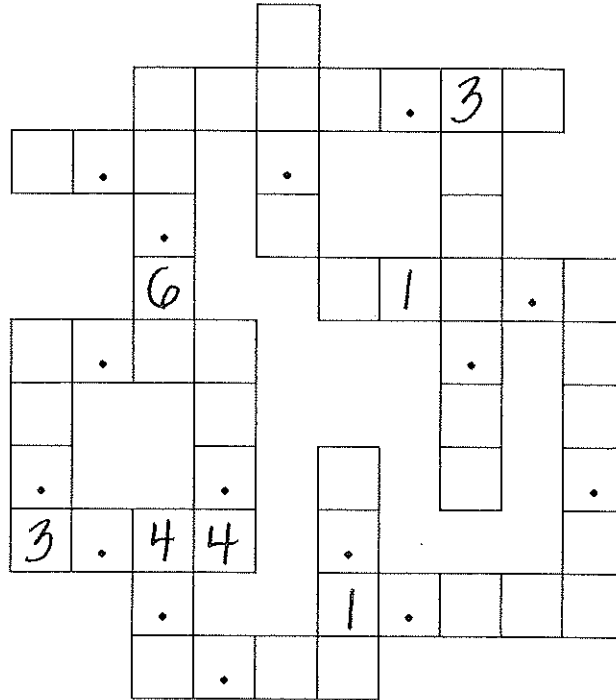
$$\begin{array}{r} 6. \ 8\frac{9}{10} \\ -3\frac{2}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 9. \ 12\frac{1}{2} \\ -3\frac{1}{4} \\ \hline \end{array}$$



# Every Number Has Its Place

Write each decimal in standard form on the lines below. Fit the number into the puzzle. The decimal points occupy one space and are already written in the puzzle.



1. three and forty-four hundredths

3.44

2. four and six tenths

\_\_\_\_\_

3. forty-one and seven tenths

\_\_\_\_\_

4. four thousand sixteen and thirty-two hundredths

\_\_\_\_\_

5. nine hundred forty-seven and thirty-six hundredths

\_\_\_\_\_

6. six and five tenths

\_\_\_\_\_

7. fifty-six and four tenths

\_\_\_\_\_

8. one and thirty-five hundredths

\_\_\_\_\_

9. one and six thousandths

\_\_\_\_\_

10. forty-five and sixty-three hundredths

\_\_\_\_\_

11. fifteen and three tenths

\_\_\_\_\_

12. three hundred seventeen and nine tenths

\_\_\_\_\_

13. three thousand seven and fifty-five hundredths

\_\_\_\_\_

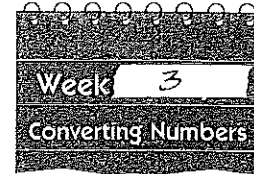
14. six and nineteen hundredths

\_\_\_\_\_

15. six and ninety-nine hundredths

\_\_\_\_\_

EX: / . 5 4 6  
 ↑     ↑     ↑  
 tenths hundredths thousandths



# Fractions, Decimals, and Percents

Write each fraction as a percent. Round to the nearest hundredth.

**Follow these rules:** 1) Change the fraction to a decimal (numerator  $\div$  denominator).

2) Change the decimal to a percent (multiply by 100). A percent compares a quantity to 100. If you can make an equivalent fraction with a denominator of 100, then the numerator equals the percent.

1.  $\frac{3}{5} =$  \_\_\_\_\_ %

3.  $\frac{4}{25}$  \_\_\_\_\_

5.  $\frac{17}{25}$  \_\_\_\_\_

7.  $\frac{67}{100}$  \_\_\_\_\_

2.  $\frac{1}{2}$  \_\_\_\_\_

4.  $\frac{22}{100}$  \_\_\_\_\_

6.  $\frac{12}{50}$  \_\_\_\_\_

8.  $\frac{11}{25}$  \_\_\_\_\_

Write each decimal as a percentage. **Remember:** Decimals that name hundreds can be written easily as percentages because *percent* means "per hundred."

9. 0.18 \_\_\_\_\_

11. 0.09 \_\_\_\_\_

13. 0.35 \_\_\_\_\_

15. 0.03 \_\_\_\_\_

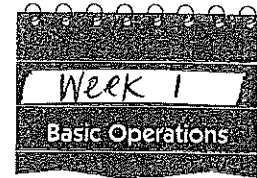
10. 0.75 \_\_\_\_\_

12. 0.54 \_\_\_\_\_

14. 0.98 \_\_\_\_\_

16. 0.61 \_\_\_\_\_

Example:  $0.45 = \frac{45}{100} = 45\%$



# Reviewing the Basics

Solve the following problems. Be sure to watch the operations signs. Show any remainders as fractions.

*\*show all work!*

1. 
$$\begin{array}{r} 2,498 \\ + 3,501 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 72,819 \\ + 39,491 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 1,527 \\ \times 349 \\ \hline \end{array}$$

16.  $62 \times 35 =$

2. 
$$\begin{array}{r} 8,905 \\ - 755 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 16,528 \\ - 8,263 \\ \hline \end{array}$$

12.  $871 \times 415 =$

17.  $2,222 \div 11 =$

3. 
$$\begin{array}{r} 1,987 \\ + 2,391 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 729 \\ \times 44 \\ \hline \end{array}$$

13.  $47 \times 504 =$

18.  $9 \times 888 =$

4. 
$$\begin{array}{r} 7,533 \\ - 3,474 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 5,555 \\ \times 47 \\ \hline \end{array}$$

14.  $783 \div 3 =$

19.  $1,862 \div 38 =$

5. 
$$\begin{array}{r} 6,664 \\ + 588 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 8,904 \\ - 135 \\ \hline \end{array}$$

15.  $387 \div 8 =$

20.  $60 \overline{) 5,040}$



You may need to use a separate sheet of paper. Write neatly.