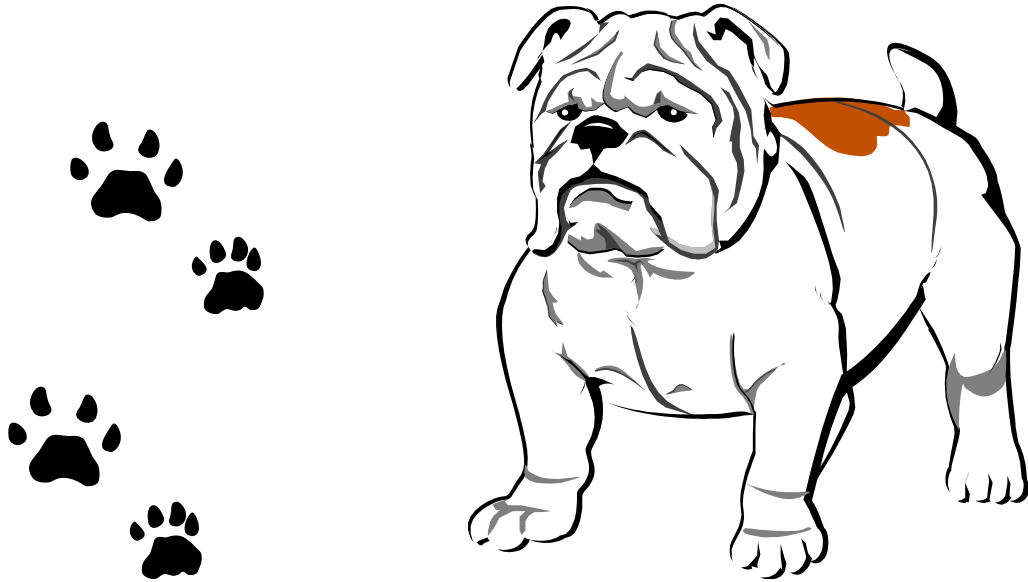


John T. Baker Middle School

Summer Math Packet

Student Name: _____



Say Hello to Math 7

For Students Entering Math 7

This summer math booklet was developed to provide students in middle school an opportunity to review grade level math objectives and to improve math performance.

Say Hello to Math 7

One goal of Baker Middle School is to promote increased math performance at all grade levels. Completing the summer math booklet allows each student and parent within the school to work together to achieve this goal. Students who complete the summer math booklet will be able to:

- Increase retention of math concepts,
- Increase the level of proficiency on the Maryland School Assessment,
- Work toward closing the gap in student performance.

Student Responsibilities

Students will be able to improve their math performance by:

- Completing the summer math booklet,
- Reviewing math skills throughout the summer.

Student Signature

Grade

Date

Parent Responsibilities

Parents will be able to promote student success in math by:

- Supporting the math goals of Baker Middle School,
- Monitoring student completion of the summer math booklet,
- Encouraging student use of math concepts in summer activities.

Parent Signature

Date

This summer math booklet was adapted by Missy Sigley, Math Resource Teacher at Baker Middle School from the "Sail into Summer with Math!" booklets and from *Working with Decimals* and *Working with Fractions* by Loretta and Harold Taylor, published by Dale Seymour Publications, 2000.

John T. Baker Middle School

Place Value

Hints/Guide: To write a decimal number in words -

- Write the numbers to the left of the decimal point.
- Write "and" for the decimal point.
- Write the numbers to the right of the point as if the decimal wasn't there.
- Write the units of the last digit.

Example:

Write the number in the blanks below. Then write the number in words. 377.4382

millions	hundred-thousands	ten-thousands	thousands	hundreds	tens	ones	AND	tenths	hundredths	thousandths	ten-thousandths	hundred-thousandths	millionths
----------	-------------------	---------------	-----------	----------	------	------	------------	--------	------------	-------------	-----------------	---------------------	------------

_____ 3 7 7 . 4 3 8 2 _____

three hundred seventy-seven and four thousand three hundred eighty-two ten-thousandths

Exercises: Write each number in the blanks below. Then write the number in words.

1. 68.537

_____ . _____

2. 534.0071

_____ . _____

3. 0.7235

_____ . _____

4. 9683.21

_____ . _____

Ordering Decimals

Hints/Guide:

Write the numbers in order from least to greatest:

- write the numbers in a list, one under the other, with the decimal points in a line,
- fill in the empty spaces after the decimal with zeros
- compare the numbers in front of the decimal point, choose the smallest value
- compare the numbers behind the decimal as one number and choose the smallest value

Example: Write the numbers in order from the least to greatest.

2.02 1.980 2.009

2.020

make a list with the decimals in a column

1.980

fill in the empty spaces with zeros

2.009

compare the numbers in front of the decimal - 1 is smaller than 2

compare the numbers behind the decimal as a group - 9 is smaller than 20

answer

1.980 2.009 2.02

Exercises: Write the numbers in order from least to greatest.

1. 0.23 0.45 0.02 2. 0.7 0.9 0.3

3. 0.79 0.7 0.75 4. 0.07 0.77 0.70

5. 5.93 59.7 598 6. 8.5 85 0.85

7. 9.06 0.91 0.905 8. 1.03 0.988 9.88

9. 0.07 0.007 0.0072

Adding Decimals

Example:

Add the following decimal numbers: 602.84, 37.3, 157.662, and 54.89

		6	0	2	.	8	4	
			3	7	.	3		
		1	5	7	.	6	6	2
+		5	4	.	8	9		
	8	5	2	.	6	9	2	

answer:

Exercises: Add the decimal numbers.

1. 17.62, 319.45, 62.7, 83.946

					.			
					.			
					.			
	+				.			
					.			

2. 341.08, 69.343, 205.91, 3.967

					.			
					.			
					.			
	+				.			
					.			

3. 96.835, 207.31, 83.2, 464.73

					.			
					.			
					.			
	+				.			
					.			

4. 82.95, 340.82, 437.5, 61.24

					.			
					.			
					.			
	+				.			
					.			

5. 305.61, 82.09, 43.674, 800.9

					.			
					.			
					.			
	+				.			
					.			

6. 68.73, 284.67, 69.352, 3.967

					.			
					.			
					.			
	+				.			
					.			

Subtract Decimals

Example:

Subtract the following decimal numbers: $803.25 - 32.73$

		8	0	3	.	2	5	
	-		3	2	.	7	3	
		7	7	0	.	5	2	

answer:

Exercises: Subtract the decimal numbers.

1. $29.634 - 6.07$

				.			
	-			.			
				.			

2. $365.479 - 128.53$

				.			
	-			.			
				.			

3. $694.32 - 681.592$

		6	9	4	.	3	2	0
	-	6	8	1	.	5	9	2
					.			

4. $936.84 - 274.61$

				.			
	-			.			
				.			

5. $3007.92 - 1564.73$

				.			
	-			.			
				.			

6. $827.56 - 343.927$

				.			
	-			.			
				.			

7. $609.052 - 158.73$

				.			
	-			.			
				.			

8. $13.96 - 8.58$

				.			
	-			.			
				.			

Multiply Decimals

Hints/Guide:

- Count the number of decimal places to the right in each number you are multiplying.
- Add the total number of decimal places together.
- Multiply the numbers. Ignore the decimals.
- Count the number of decimal places that you added from the right in the answer.

Example:

1. 21.234×6.44

21.234	3 places to the right of the decimal point
<u> x 6.44</u>	2 places to the right of the decimal point
85296	
85296	
<u>127944</u>	
137.32656	5 places to the right of the decimal point

Exercises: Multiply the decimal numbers. Show all work.

1. 28.2×4.5

2. 35.4×8.2

3. 507.2×0.31

4. 29.4×1.02

5. 16.75×0.14

6. 26.7×9.3

7. 62.1×5.3

8. 75.6×3.1

Divide Decimals

Hints/Guide:

- Move the decimal point in the divisor (number *outside* the division box) until it is next to the division box.
- Move the decimal point in the dividend (number *inside* the division box) the same number of spaces.
- Put the decimal point on the top of the division box.
- Divide the numbers.

Example: $1.692 \div 23.5$ (Remember the first number goes inside the division box.)

$$\begin{array}{r}
 0.072 \\
 \hline
 23.5 \overline{) 1.6920} \\
 \underline{-1645} \\
 470 \\
 \underline{-470} \\
 0
 \end{array}$$

move the decimal in the divisor to the box (1 space)

move the decimal inside the box the same number of spaces (1 space)

Exercises: Divide the decimals. Show all work.

1. $14.04 \div 0.52$

2. $6.93 \div 0.21$

3. $27.95 \div 0.43$

4. $0.2944 \div 0.032$

5. $0.4615 \div 7.1$

6. $7.626 \div 9.3$

7. $167.4 \div 0.062$

8. $7.31 \div 0.017$

Adding Fractions

Hints/Guide:

To Add Fractions:

- if denominators (bottom of fractions) are different, change to a common denominator
- if change the denominators, must change the numerators (top of fraction)
- add the numerators, keep the denominator the same
- simplify the answer

Examples:

1) $\frac{2}{3} + \frac{3}{5}$

$$\begin{array}{r} \frac{2}{3} = \frac{10}{15} \quad (2 \times 5 = 10) \\ \frac{3}{5} = \frac{9}{15} \quad (3 \times 3 = 9) \\ + \quad \frac{3}{5} = \frac{9}{15} \quad (5 \times 3 = 15) \\ \hline \frac{19}{15} = \frac{4}{15} \end{array}$$

2) $\frac{5}{14} + \frac{8}{21}$

$$\begin{array}{r} \frac{5}{14} = \frac{15}{42} \quad (5 \times 3 = 15) \\ \frac{8}{21} = \frac{16}{42} \quad (8 \times 2 = 16) \\ + \quad \frac{8}{21} = \frac{16}{42} \quad (21 \times 2 = 42) \\ \hline \frac{31}{42} \end{array}$$

Exercises: Add the fractions. Show all work.

1. $\frac{2}{3} + \frac{4}{7}$

2. $\frac{3}{5} + \frac{2}{3}$

3. $\frac{4}{7} + \frac{5}{8}$

4. $\frac{2}{9} + \frac{3}{5}$

5. $\frac{1}{2} + \frac{2}{7}$

6. $\frac{3}{8} + \frac{1}{5}$

7. $\frac{5}{6} + \frac{4}{7}$

8. $\frac{2}{9} + \frac{3}{11}$

9. $\frac{1}{2} + \frac{5}{9}$

Subtract Fractions

Hints/Guide:

To Subtract Fractions:

- if denominators (bottom of fractions) are different, change to a common denominator
- if change the denominators, must change the numerators (top of fraction)
- subtract the numerators, keep the denominator the same
- simplify the answer

Examples:

1) $3/4 - 1/6$

$$\begin{array}{r} \frac{3}{4} = \frac{9}{12} \quad (3 \times 3 = 9) \\ \frac{1}{6} = \frac{2}{12} \quad (1 \times 2 = 2) \\ \frac{3}{4} - \frac{1}{6} = \frac{9}{12} - \frac{2}{12} \quad (6 \times 2 = 12) \\ \hline \frac{7}{12} \end{array}$$

2) $11/20 - 3/16$

$$\begin{array}{r} \frac{11}{20} = \frac{44}{80} \quad (11 \times 4 = 44) \\ \frac{3}{16} = \frac{15}{80} \quad (3 \times 5 = 15) \\ \frac{11}{20} - \frac{3}{16} = \frac{44}{80} - \frac{15}{80} \quad (16 \times 5 = 80) \\ \hline \frac{29}{80} \end{array}$$

Exercises: Subtract the fractions. Show all work.

1. $5/9 - 2/9$

2. $7/16 - 5/16$

3. $5/8 - 1/4$

4. $3/4 - 1/3$

5. $2/3 - 1/4$

6. $5/6 - 3/8$

7. $7/8 - 7/12$

8. $4/9 - 1/4$

9. $2/3 - 5/16$

Multiply Fractions

Hints/Guide:

To Multiply Fractions:

- multiply the numerators (top of fractions)
- multiply the denominators (bottom of fractions)
- simplify the fraction using a common factor

Examples:

1) $\frac{2}{3} \times \frac{5}{7}$

$$\frac{2}{3} \times \frac{5}{7} = \frac{2 \times 5}{3 \times 7} = \frac{10}{21}$$

2) $\frac{2}{7} \times \frac{21}{26}$

$$\frac{2}{7} \times \frac{21}{26} = \frac{2 \times 21}{7 \times 26} = \frac{42}{182} = \frac{3}{13} \text{ (simplified)}$$

Exercises: Multiply the fractions. Show all work.

1. $\frac{3}{5} \times \frac{10}{27}$

2. $\frac{2}{3} \times \frac{15}{22}$

3. $\frac{9}{10} \times \frac{2}{3}$

4. $\frac{4}{21} \times \frac{7}{8}$

5. $\frac{7}{8} \times \frac{12}{21}$

6. $\frac{5}{4} \times \frac{2}{3}$

7. $\frac{21}{10} \times \frac{15}{45}$

8. $\frac{5}{6} \times \frac{6}{1}$

9. $\frac{7}{8} \times \frac{4}{21}$

10. $\frac{3}{4} \times \frac{10}{21}$

11. $\frac{5}{8} \times \frac{16}{25}$

12. $\frac{5}{6} \times \frac{4}{5}$

Divide Fractions

Hints/Guide:

To Divide Fractions:

- change the division sign to multiply
- change the **second** fraction in the problem to its reciprocal (switch the top of the fraction to the bottom and the bottom of the fraction to the top)
- multiply the numerators (top of the fractions)
- multiply the denominators (bottom of fractions)
- simplify the fraction using a common factor

Examples:

1) $\frac{2}{3} \div \frac{1}{5}$

$$\frac{2}{3} \div \frac{1}{5} = \frac{2}{3} \times \frac{5}{1} = \frac{10}{3}$$

2) $\frac{3}{4} \div \frac{1}{2}$

$$\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1} = \frac{6}{4} = \frac{3}{2} \text{ (simplified)}$$

Exercises: Divide the fractions. Show all work.

1. $\frac{6}{25} \div \frac{3}{5}$

2. $\frac{5}{7} \div \frac{7}{5}$

3. $\frac{5}{7} \div \frac{5}{7}$

4. $\frac{8}{15} \div \frac{4}{5}$

5. $\frac{7}{16} \div \frac{21}{48}$

6. $\frac{5}{81} \div \frac{25}{99}$

7. $\frac{9}{35} \div \frac{15}{49}$

8. $\frac{4}{7} \div \frac{12}{35}$

9. $\frac{7}{45} \div \frac{28}{95}$

Parent Packet

Answers to Place Value (page 3):

- 1) sixty-eight and five hundred thirty-seven thousandths
- 2) five hundred thirty-four and seventy-one ten-thousandths
- 3) seven thousand two hundred thirty-five ten thousandths
- 4) nine thousand six hundred eighty-three and twenty-one hundred-thousandths

Answers to Ordering Decimals (page 4):

- 1) 0.02, 0.23, 0.45
- 2) 0.3, 0.7, 0.9
- 3) 0.7, 0.75, 0.79
- 4) 0.07, 0.70, 0.77
- 5) 5.93, 59.7, 598
- 6) 0.85, 8.5, 85
- 7) 0.905, 0.91, 9.06
- 8) 0.988, 1.03, 9.88
- 9) 0.007, 0.0072, 0.07

Answers to Adding Decimals (page 5):

- 1) 483.716
- 2) 620.300
- 3) 852.075
- 4) 922.51
- 5) 1,232.274
- 6) 426.719

Answers to Subtracting Decimals (page 6):

- 1) 23.564
- 2) 236.949
- 3) 12.728
- 4) 662.23
- 5) 1443.19
- 6) 483.633
- 7) 450.322
- 8) 5.38

Answers to Multiplying Decimals (page 7):

- 1) 126.9
- 2) 290.28
- 3) 157.232
- 4) 29.988
- 5) 2.345
- 6) 248.31
- 7) 329.13
- 8) 234.36

Answers to Dividing Decimals (page 8):

- 1) 27
- 2) 33
- 3) 65
- 4) 9.2
- 5) 0.065
- 6) 0.82
- 7) 2700
- 8) 430

Answers to Adding Fractions (page 9):

- 1) $1 \frac{5}{21}$
- 2) $1 \frac{4}{15}$
- 3) $1 \frac{11}{56}$
- 4) $\frac{37}{45}$
- 5) $\frac{11}{14}$
- 6) $\frac{23}{40}$
- 7) $1 \frac{17}{42}$
- 8) $\frac{49}{99}$
- 9) $1 \frac{1}{18}$

Answers to Subtracting Fractions (page 10):

- 1) $1/3$ 2) $1/8$ 3) $3/8$ 4) $5/12$ 5) $5/12$
6) $11/24$ 7) $7/24$ 8) $7/36$ 9) $17/48$

Answers to Multiplying Fractions (page 11):

- 1) $2/9$ 2) $5/11$ 3) $3/5$ 4) $1/6$ 5) $1/2$ 6) $5/6$ 7) $2 \frac{1}{4}$
8) 5 9) $1/6$ 10) $5/14$ 11) $2/5$ 12) $2/3$

Answers to Dividing Fractions (page 12):

- 1) $2/5$ 2) $25/49$ 3) 1 4) $2/3$ 5) 1
6) $11/45$ 7) $21/25$ 8) $1 \frac{2}{3}$ 9) $19/36$