

Summer Mathematics Packet

Grade Four

June 15, 2009

Dear Parents,

In this packet are math activities that will help to review and maintain math skills your child learned this school year. These activities are varied and designed to show how much fun and relevant math can be in everyday life. There are activities that can be done throughout vacation, at the pool, at a restaurant, on the beach, etc. (If an activity has an asterisk *, it indicates a more challenging problem.)

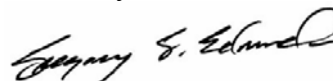
Your child should receive a math packet labeled for their September grade level. (i.e. A child who has just completed first grade will receive a second grade packet.) Students are expected to complete *at least three activities* each week. Check off each activity as you complete it. Some of the activities do not involve any written work, some can be completed right in this booklet, and others need to be done on separate paper. You may staple sheets of paper together or use a notebook (an old one is fine).

All work should be returned to your child's teacher by Friday, September 4, 2009. We will gather as a school to celebrate a successful summer and a job well done.

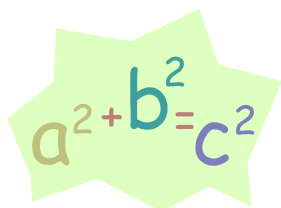
Please remember to visit Great Seneca Creek Elementary School's website over the summer. You will find connections to teacher websites and can access your summer math packets. greatsenecacreekes.org

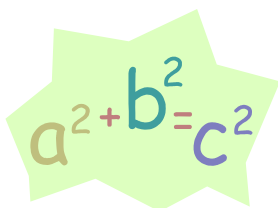
Have a great summer!

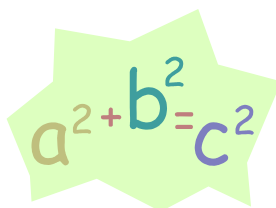
Sincerely,

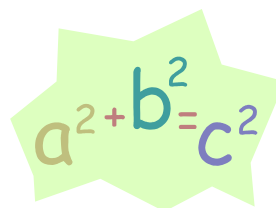


Gregory S. Edmundson
Principal


$$a^2 + b^2 = c^2$$


$$a^2 + b^2 = c^2$$


$$a^2 + b^2 = c^2$$


$$a^2 + b^2 = c^2$$

Week 1

1. Use this little rhyme to help remember the rules for rounding:

*Zero, one, two, three, four, Round down to the ten/hundred before,
Five, six, seven, eight, nine, Round up to the next in line.*

Round each number to the nearest ten

78 _____	42 _____	38 _____	55 _____
63 _____	21 _____	95 _____	14 _____
	87 _____	66 _____	

Round each number to the nearest hundred. (*Hint – If the tens digit is 0-4, the hundreds digit remains the same. If the tens digit is 5-9, the hundreds digit is increased by one.*)

432 _____	538 _____	724 _____	426 _____
250 _____	673 _____	768 _____	335 _____
	977 _____	475 _____	

2. Draw at least five different combinations of coins that total \$0.80.

3. Use **mental math** to solve. Write answers only.

300 + 200 =	900 – 500 =	1300 – 400 =
1400 – 800 =	800 + 700 =	500 + 900 =
1200 – 200 =	700 + 200 =	1100 – 700 =
800 + 900 =	600 + 700 =	1500 – 700 =
1800 – 900 =	400 + 800 =	1200 – 900 =

Summer Mathematics Packet

4. **Collect data** from 20 friends and/or family members about their favorite summertime activities. Make a **table** and use **tally marks** to record your data. Be sure to title and label your table. Write two statements using the data from your graph.

5. Find 6 four-digit numbers in old magazines, catalogs, or the newspaper and cut them out (do not use prices that include cents).

Paste them down in order from smallest to largest.

Put a star by the number in your list that is closest to 4,000.

Circle in red the number(s) that has the greatest digit in the hundreds place.

Circle in blue the number(s) that has the smallest digit in the tens place.

6. Write the **dates using numerals** only.

July 4, 1994

February 20, 1996

March 8, 1964

August 30, 1992

December 31, 1967

January 1, 2000

April 1, 1993

November 15, 1990

June 17, 1999

September 21, 1985

October 31, 1973

May 10, 1975

Week 2

1. Round each number to the nearest ten.

- | | | | |
|-----------|-----------|-----------|-----------|
| 429 _____ | 632 _____ | 708 _____ | 523 _____ |
| 838 _____ | 352 _____ | 578 _____ | 191 _____ |
| 214 _____ | 974 _____ | 347 _____ | 618 _____ |
| | 503 _____ | 442 _____ | |

Now try these!

- | | | | |
|-------------|-------------|-------------|-------------|
| 4,812 _____ | 7,947 _____ | 3,669 _____ | 2,582 _____ |
| 6,735 _____ | 1,457 _____ | 3,443 _____ | 8,328 _____ |
| | 5,293 _____ | 5,997 _____ | |

2. **Estimate** which sums will be greater than 900 by circling those problems. Then solve **all problems** to find the **actual sum**.

- | | | | | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|
| 372 | 475 | 406 | 790 | 468 | 384 | 279 | 128 | 845 | 216 |
| <u>+478</u> | <u>+292</u> | <u>+231</u> | <u>+429</u> | <u>+278</u> | <u>+576</u> | <u>+875</u> | <u>+876</u> | <u>+97</u> | <u>+584</u> |

Write an addition story to go with one of these problems.

3. Go on a **Shape Hunt**. Find circles, squares, rectangles, and triangles. Make a table to show the shapes, the names of the objects you found, and the total number of objects for each shape. Be sure to include a title on your table.

Bonus! Try to find pentagons, hexagons, octagons, rhombi, and ovals.

Summer Mathematics Packet

4. Choose one day this week and make a record of your daily activities. Record the time in five-minute and/or one-minute intervals **AND** use **A.M.** and **P.M.** Example: 7:00 a.m. – Woke up!
7:30 a.m. – Breakfast at McDonald's
8:15 a.m. – Swim team practice

5. The ice cream truck has just arrived. Ashley has \$0.90 in her swim bag. An ice cream sandwich costs \$0.65. How much change will she get back? **Draw and label the coins.**

6. Write addition/subtraction **fact families** for 17, 13, 16, and 15.

A fact family look like this: $4 + 7 = 11$ $11 - 4 = 7$
 $7 + 4 = 11$ $11 - 7 = 4$

Week 3

1. **Estimate** which differences are less than 600 by circling those problems. Then solve **all problems** to find the **actual difference**.

$$\begin{array}{r} 441 \\ - 362 \\ \hline \end{array} \quad \begin{array}{r} 438 \\ - 259 \\ \hline \end{array} \quad \begin{array}{r} 860 \\ - 98 \\ \hline \end{array} \quad \begin{array}{r} 800 \\ - 194 \\ \hline \end{array} \quad \begin{array}{r} 750 \\ - 134 \\ \hline \end{array} \quad \begin{array}{r} 501 \\ - 17 \\ \hline \end{array} \quad \begin{array}{r} 915 \\ - 288 \\ \hline \end{array} \quad \begin{array}{r} 666 \\ - 195 \\ \hline \end{array} \quad \begin{array}{r} 402 \\ - 154 \\ \hline \end{array}$$

Write a subtraction story to go with one of these problems.

Summer Mathematics Packet

2. Fill in the dates on the July calendar using **Roman Numerals**. Make sure you are beginning July on the correct day. Use your July calendar to answer these questions.
- What is the date of the second Wednesday?
 - What is the date of the fourth Friday?
 - List all of the dates for the third week in July.

July

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

3. What unit of measurement would be used to measure the following objects (use units in the **customary system** – inch, foot, yard)?
- The width of a yo-yo
 - The length of the swimming pool
 - The width of the sandbox
 - The height of a two-scoop ice cream cone
 - The height of a roller coaster
 - The width of a squirt gun
 - The length of a hot dog
 - The height of the slide at the playground

Now do the same using units in the **metric system** – centimeter and meter. Use a ruler to measure four to these objects. Use the **customary system** and then use the **metric system**.

4. Carlos and Scott decide to put their money together to buy an ice cream treat to share. The twin popsicle costs \$0.75. Carlos has \$0.45 and Scott has \$0.40. Do they have enough money? **Explain** how you got your answer.
5. Total the following groups of coins and/or bills. Use the **dollar sign and decimal point** to record your answer.
- 2 quarters, 1 dime, 1 nickel
 - 1 quarter, 2 dimes, 3 nickels, 4 pennies
 - 3 quarters, 3 nickels, 3 pennies
 - 2 half dollars, 2 quarters, 3 dimes, 5 pennies
 - 4 one-dollar bills, 3 quarters, 4 nickels, 3 pennies
 - 1 five-dollar bill, 5 one-dollar bills, 2 quarters, 8 pennies
 - 6 quarters, 5 dimes, 8 nickels, 13 pennies
 - 1 five-dollar bill, 2 one-dollar bills, 4 quarters, 2 dimes, 7 pennies
6. Mary has 3 friends coming over for lunch. Mary orders a large pizza which is cut in twelve pieces. All of the girls eat the same amount. Draw a picture to show how much pizza each girl ate. Now write a **fraction** to show how much pizza each girl ate. Can you write an equivalent fraction for the amount that each girl ate (*Hint: equivalent fractions are fractions that name the same number of amount. Example: $\frac{1}{2}$ and $\frac{2}{4}$ are equivalent fractions*).

For dessert, Mary has a large chocolate bar. The bar is divided into 8 pieces. Draw a picture to show how much of the candy bar each girl will get. Now write a **fraction** to show how much each girl will get. Can you write an equivalent fraction for the amount that each girl will get?

Week 4

1. Conduct a soft drink **survey**. **Collect data** from 20 people about their favorite soft drinks – cola, orange, ginger ale, root beer, grape, or other. **Record** the data in a table using **tally marks**. **Construct** a pictograph, bar graph, glyph, line graph, or circle graph to share your findings. Be sure to include a title, a key (if needed), and label all necessary parts of your graph.

Write two statements using the data from your graph.

2. Keisha and Tyler want to make some spending money for their vacations. They decide to sell lemonade to their friends and neighbors. Keisha’s mom agrees to buy the lemonade. Tyler’s mom gives them 25 cups and ice.
 - What should they charge for a cup of lemonade?
 - How many cups will they sell?
 - What is the total amount of money they will make?
 - How much spending money will each of them have if they share their total earnings equally?

3. Solve each problem. Use the **dollar sign and decimal point** in your answer.

\$8.25	\$6.25	\$5.47	\$9.85	\$4.05	\$10.86	\$50.00
<u>+ 3.75</u>	<u>- 3.77</u>	<u>+ 3.59</u>	<u>+ 6.79</u>	<u>- .99</u>	<u>- 8.27</u>	<u>- 6.49</u>

Write a money story to go with one of these problems.

Summer Mathematics Packet

4. Amanda is planning to have a swimming party during the month of July. Use the **July calendar** to decide which days she can have her party. The following information will help you.

The swimming pool is closed every Monday.

Amanda's family is going to visit her grandma the week of July 6-12.

Amanda wants both of her parents to be at the party.

Her dad will be out of town on a business trip from July 21-23.

Amanda's mom will be visiting a friend for the weekend of July 26th.

Amanda is going to King's Dominion on July 31st.

Make a **list of the dates** that Amanda **can** have her swimming party.

5. **Estimate** which product will be the greatest. Circle that problem. Then solve **all problems** to find the **actual products**. Solve first using **lattice multiplication**, and then check using any other method.

23	54	42	63	423	456	923	813	504
<u>x 3</u>	<u>x 2</u>	<u>x 3</u>	<u>x 3</u>	<u>x 3</u>	<u>x 1</u>	<u>x 3</u>	<u>x 3</u>	<u>x 2</u>

6. Use a **clock** to help you solve these problems.

The movie is two hours long. It starts at 2:15 p.m. What time will the movie end?

You were one hour late for the party. You arrived at 3:00 p.m. What time did the party start?

Your piano lesson is usually scheduled for 11:30 a.m. Your teacher would like to come 2 hours earlier this week. What time will he expect you?

Dad said you could spend $2\frac{1}{2}$ hours at the pool this afternoon. You arrive there at 1:15 p.m. What time will it be when you leave?

You waited all afternoon for the washer repairperson to arrive at your house. She finally came at 4:30. She was 3 hours late! What time was she expected to arrive?

Week 5

1. Katie bought a different treat at the swimming pool each day for 5 days. Katie has \$0.50 to spend each day. On Monday, she bought gum for \$0.32; on Tuesday, chips for \$0.45; on Wednesday, a candy bar for \$0.20; on Thursday, a soda for \$0.25; and on Friday, popcorn for \$0.29. Show how much change she received each day. Draw and label the coins. At the end of the week, what was the total amount of money she had left?

2. **Estimate** which product will be the greatest. Circle the problem. Then find the **actual products** for each problem. Solve first using the **partial products algorithm** and then check using any other method.

204	306	585	398	406	942	492	590	459
<u>x 4</u>	<u>x 3</u>	<u>x 4</u>	<u>x 3</u>	<u>x 4</u>	<u>x 9</u>	<u>x 8</u>	<u>x 7</u>	<u>x 3</u>

Write a multiplication story to go with one of these problems.

3. Draw pictures to show the following **fractions**. Label each picture with the correct fraction.

$\frac{1}{2}$	$\frac{2}{3}$	$\frac{2}{4}$	$\frac{7}{10}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{10}$	$\frac{4}{4}$	$\frac{1}{10}$	$\frac{1}{3}$
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4. For her birthday, Megan received a \$10.00 gift certificate to the Clown Store. Name **four different combinations** of items that she could buy. Show how much each set would cost.

The Clown Store		
Funny Nose - \$2.00	White Make-up - \$3.62	Rubber Chicken - \$4.99
Goofy Teeth - \$1.50	Juggling Balls - \$7.00	Squirting Flower - \$2.75

5. Write multiplication/division **fact families**. The first multiplication number sentence is given. You must write the second multiplication number sentence and the division number sentences for the family.

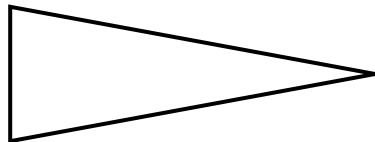
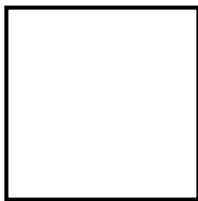
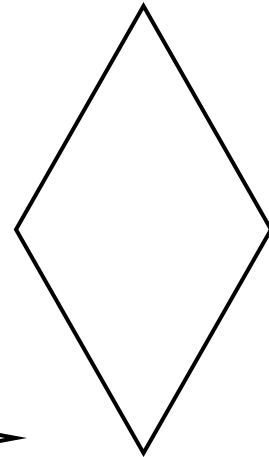
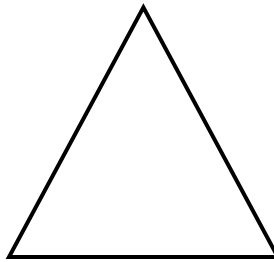
Example: $3 \times 2 = 6$ $2 \times 3 = 6$ $6 \div 2 = 3$ $6 \div 3 = 2$

$4 \times 3 =$ $6 \times 3 =$ $4 \times 6 =$ $9 \times 3 =$ $9 \times 4 =$

$3 \times 7 =$ $7 \times 4 =$ $4 \times 8 =$ $6 \times 6 =$ $7 \times 6 =$

What did you notice about the number sentence 6×6 ? **Explain.**

6. Use a centimeter ruler to measure the **perimeter** of each shape. *Reminder – perimeter is the distance around any figure.*



Week 6

1. It's time for a picnic. Kevin invited 3 friends to come and eat hot dogs. Kevin ate two hot dogs. Tom ate only one, Bill ate four hot dogs, and Jerome ate three. If one package contains ten hot dogs, what **fractional part** of the package did each boy eat? Use pictures and fractions to show your answer. Were there any hot dogs left? **Explain** your answer.
2. Write a **postcard** about a real or imaginary trip. Include at least four of the numbers below (or you can use your own). *Numbers can be used for routes, distances, temperatures, heights, weights, etc.* **Be sure the numbers in your postcard show correct number sense.**

98 2,568 35 82 576 650 87 100 983 1,745 295 59

3. Enjoy a **fraction** treat. You will need 12 edible items (for example, m&m's, crackers, raisins, pieces of cereal). Arrange your 12 edible items into thirds. Draw a picture to show how you did this. Use your picture to answer these questions. What is $\frac{1}{3}$ of 12? What is $\frac{3}{3}$ of 12? What is $\frac{2}{3}$ of 12?

Next arrange our 12 edibles into fourths. Draw a picture to show how you did this. What is $\frac{1}{4}$ of 12? What is $\frac{2}{4}$ of twelve? What is $\frac{3}{4}$ of 12?

Now eat $\frac{1}{6}$ of your edibles. How many are left? Eat $\frac{1}{2}$ of the remaining edibles. How many are left? Eat $\frac{1}{5}$ of the remaining edibles. How many are left? Eat $\frac{3}{4}$ of the remaining edibles. How many are left?

4. Find the **quotient**. When you solve these problems write them in working form and show all steps.

Example: $22 \div 2$

$$\begin{array}{r} 11 \\ 2 \overline{)22} \\ \underline{-2} \\ 02 \\ \underline{-2} \\ 0 \end{array}$$

Note: Some problems may have remainders.

$46 \div 2 =$

$80 \div 2 =$

$58 \div 2 =$

$72 \div 2 =$

$31 \div 2 =$

$75 \div 5 =$

$65 \div 5 =$

$42 \div 5 =$

$37 \div 5 =$

$51 \div 5 =$

5. What's for lunch? Here are 4 breads and 3 sandwich fillings. How many **different** kinds of 1-bread and 1-filling sandwiches can you make? Choose a way to find all the combinations.

<i>bagel</i>	<i>wheat bread</i>	<i>pita bread</i>	<i>tortilla</i>
<i>cheese</i>	<i>turkey</i>	<i>ham</i>	

Summer Mathematics Packet

6. **Estimate.** If the sum or difference is **greater than 500**, circle the problem, then solve **all problems** to find the **actual answers**.

$$\begin{array}{r} 841 \\ - 357 \\ \hline \end{array} \quad \begin{array}{r} 648 \\ - 59 \\ \hline \end{array} \quad \begin{array}{r} 486 \\ + 315 \\ \hline \end{array} \quad \begin{array}{r} 876 \\ - 498 \\ \hline \end{array} \quad \begin{array}{r} 268 \\ + 714 \\ \hline \end{array} \quad \begin{array}{r} 687 \\ - 225 \\ \hline \end{array} \quad \begin{array}{r} 851 \\ - 590 \\ \hline \end{array}$$

$$\begin{array}{r} 276 \\ + 467 \\ \hline \end{array} \quad \begin{array}{r} 429 \\ + 634 \\ \hline \end{array} \quad \begin{array}{r} 500 \\ - 311 \\ \hline \end{array} \quad \begin{array}{r} 135 \\ + 358 \\ \hline \end{array} \quad \begin{array}{r} 698 \\ - 299 \\ \hline \end{array} \quad \begin{array}{r} 833 \\ - 304 \\ \hline \end{array} \quad \begin{array}{r} 701 \\ - 44 \\ \hline \end{array}$$