Randolph Math Month

"Math Gives You Superpowers!"

Our fifth Math Month has arrived! Throughout the month of May, children are being encouraged to brush up on their problem solving skills. Attached you will find 4 grade specific math problems for your child to solve. It is suggested that your child complete one problem each week. Every Friday during the month of May, your child should turn in one problem solving page (due dates are at the top of each page) to their teacher. Those children who participate will be eligible for "Math Monday Spirit Days". In order to participate in the planned events, your child must turn in the problem solving page by the designated date. To be considered eligible, sufficient work must be shown. Children can write an equation (number model), draw a picture, write words to explain their thinking, make a list, draw a table or graph, or use any other strategy that may help them be successful. Children who participate in all 4 weeks of math month will be invited to our Math Month Celebration. Thank you for supporting the learning that is taking place in school. Enjoy Math Month!

Weekly Problems Due		**Math Monday Spirit Days**	
Week # 1:	Friday, May 7th	Week # 1:	Monday, May 10th/Wear a Super Hero T-Shirt Day
Week # 2:	Friday May 14th	Week # 2:	Monday, May 17th/Super Sleepy Day (wear PJs)
Week # 3:	Friday, May 21st	Week # 3:	Monday, May 24th/Dress like your favorite Superhero
Week # 4:	Friday, May 28th	Week # 4:	Tuesday, June 1st/Math Month Celebration*

Please note the following changes:

There is no school on Monday the 31st so our celebration will be Tuesday, the 1st of June.

Growth Mindset Parent Tips

Week # 1:

Using Growth Mindset Praise and Feedback

Praise what your child does, not who he or she is. Instead of saying, *"You are so smart/clever/brilliant,"* say *"I can see you really worked hard/put forth effort/tried your best."* Praise perseverance and resiliency when you see or hear your child struggle or face challenge.

Week # 2:

Redirecting Fixed Mindset Thinking

Redirect your child's fixed mindset statements. Remind your child that he or she may not understand yet, but will by asking questions, finding new strategies, setting small goals, and working hard. Here is an example of how to redirect such a statement:

If Your Child Says	Then You Might Say
"I am no good at problem solving."	"You may not understand this problem yet, so let's try another strategy." We'll keep trying until we find the best way.

Week # 3:

Struggle

Help your child become curious about errors or lack of success. Remind your child that failure is important on the way to success. Model and encourage resiliency-the ability to bounce back from errors and failures.

Week # 4:

Flexibility and Optimism

Assume a flexible mentality when things don't go as planned. Don't let frustrating situations get the best of you-make your children aware of your ability to adapt due to a change in plans. Praise your children for their flexibility and adaptability when plans change or success is not met.

4 Steps to Problem Solving

"How to Solve it," George Polya (1945)

1. UNDERSTAND THE PROBLEM

- Can you state the problem in your own words?
- What are you trying to find or do?
- What are the unknowns?
- What information do you obtain from the problem?
- What information, if any, is missing or not needed?

2. DEVISE A PLAN

- Look for a pattern.
- Examine related problems, and determine if the same technique can be applied.
- Examine a simpler or special case of the problem to gain insight into the solution of the original problem.
- Make a table.
- Make a diagram.
- Write an equation.
- Use guess and check.
- Work backward.
- Make a model/picture to represent the problem.

3. CARRY OUT THE PLAN

- Implement the strategy or strategies in step 2, and perform any necessary actions or computations.
- Check each step of the plan as you proceed. This may be intuitive checking or formal calculations.
- Keep an accurate record of your work.

4. LOOK BACK

- Check the results in the original problem.
- Interpret the solution in terms of the original problem. Does your answer make sense? Is it reasonable?
- Determine whether there is another method of finding the solution.
- If possible, determine other related or more general problems for which the techniques will work.
- *Evaluate the efficiency and effectiveness of your method.

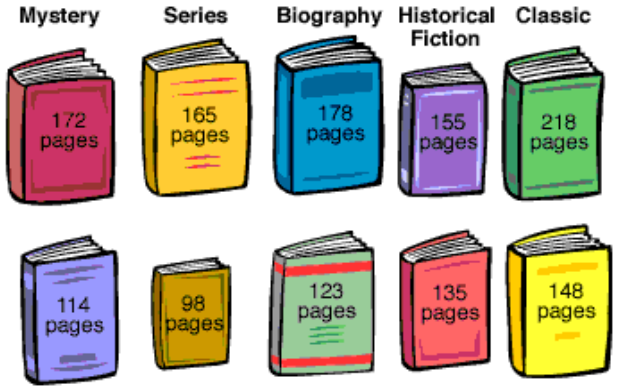
Name: _____ Grade: Fourth

Teacher: _____ Due Date: 5/7/21

Solve the Problem. Try your hardest. Show your work. Don't give up!

Hooked on Books

For their fall book reports, Brooke, Carla, Tony, and Nadine each read 4 of the books shown to the right. Their teacher told them that each book had to be from a different category. Nobody read the same combination of books.



- All four students read a mystery, but Brooke and Tony both read the longer mystery.
- Everyone except Tony read a book from a series. Nadine was the only one to read the longer of the two choices.
- Tony and Carla read the longest book.
- Nadine read the biography and the classic that no one else read.
- Carla did not read a biography.
- Brooke read the longer historical fiction but the shorter biography.
- Tony and Carla read the shorter historical-fiction book.

How many pages did each person read?

Name: _____ Grade: FOURTH

Teacher: _____ Due Date: 5/14/21

Solve the Problem. Try your hardest. Show your work. Don't give up!

Cookie Jar

There was a jar of cookies on the table. Maximus was hungry because he hadn't had breakfast, so he ate half of the cookies. Then Brooke came along and noticed the cookies. She thought they looked good, so she ate a third of what was left in the jar. Corwin came by and decided to take a fourth of the remaining cookies with him to his next class. Then, Alfred came dashing up and took a cookie to munch on. When Andrew looked at the cookie jar, he saw that there were two cookies left. "How many cookies were there in this jar to begin with?" he asked.

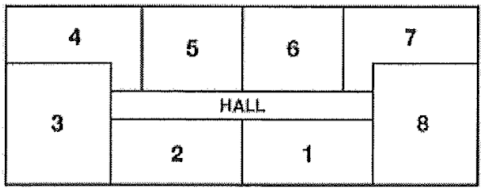
Name: _____ Grade: FOURTH

Teacher: _____ Due Date: 5/21/21

Solve the Problem. Try your hardest. Show your work. Don't give up!

Mirror Apartments

Question



The diagram above shows the floor plan for the eight apartments on the first floor where Carl and Zoë live in separate apartments. Each floor has the same floor plan. There are eight apartments on every floor. The apartments in the building are numbered from 1 to 32.

On every floor, each apartment has another apartment whose floor plan is its mirror image. For example, Apartment 8 is the mirror image of Apartment 3.

On the second floor, Apartment 9 is directly over Apartment 1, Apartment 10 is directly over Apartment 2, and so forth.

Carl lives in apartment 4. Zoë lives on the third floor in the apartment that is the mirror image of Carl's apartment.

Question
What is Zoë's apartment number?

Name: _____ Grade: FOURTH

Teacher: _____ Due Date: 5/28/21

Solve the Problem. Try your hardest. Show your work. Don't give up!

Hoop Stars

Question

Player A	Player B	Player C	Player D	Player E
9	14	19	15	13
10	16	18	17	12
12	16	16	19	13
13	13	14	17	12
11	16	18	17	15

Daniel, Kirk, Josh, Michael, and Roger often play a half-hour-long game of basketball. They keep track of the number of points each player has earned each game. The scores are listed above.

- The mean of both Daniel's and Kirk's scores is 17.
- The median of Michael's scores is 3 less than the median of Josh's scores.
- The mean of Roger's scores is less than the mean of any other player's scores. There is no mode of Roger's scores.
- The mode of Daniel's scores is 1 more than the mode of Kirk's scores.
- There is one player whose scores yield 2 modes.

Which scores belong to which player?