Summer Work Packet for MPH Math Classes

Practice for
students going into Math 6
Sept. 2021

Name: _____

To be prepared to jump right into things in Math 6, please spend time this summer practicing your math facts. When you begin 6th grade, you should know your addition, subtraction, multiplication, and division facts from 1-12. This means you should know the answer to problems like 9 x 7 or 48÷12 without spending time working them out.

Good ways to practice include flash cards, Khan Academy, or practicing with a parent or friend.

There are lots of websites and apps that you can use to help practice your facts. It will be important you are fluent with them in the fall. If you have any questions, you may email Ms. Reeve at sreeve@mphschool.org.

The summer assignment is based on the book The Number Devil. If you would like another, optional, book to read, Secret Coders by Gene Luen Yang and Mike Holmes is a good choice.

You will need a scientific calculator (preferably Texas instruments) and a binder for this class. Please bring any calculator points (Texas Instruments) on the packaging to class with you for some extra credit.

Math 6 Summer Reading June 2021 Name: _____

THE NUMBER DEVIL by Hans Magnus Enzenberger

Publisher: Holt Paperbacks (May 1, 2000) **ISBN-10:** 0805062998 **ISBN-13:** 978-0805062991

Math is about more than numbers. It's also about patterns and making connections. This year you will be developing, analyzing and writing about mathematics and this book is a great starting point. You will need to read the first three chapters of this book this summer. As you are reading, briefly answer the following questions. Bring in this sheet with your answers to class in September, as it will be a helpful reminder about what you read over the summer.

1. What patterns are discussed in the book? Describe them for each chapter. Some chapters may have many, some few, or even **none**. A pattern constitutes a set of numbers or objects in which all the members are related to each other by a specific rule. A pattern is also known as a sequence.

First Night

Second Night

Third Night

2. Which new symbols did you learn about? What do they mean?

For the following questions, you may need to go back to the third chapter of THE NUMBER DEVIL. Feel free to use a calculator or spreadsheet.

3. What types of numbers are represented by the Prima Donna numbers?

4. What are the characteristics of these numbers?

5. Find all possible combinations of Prima Donna numbers that add up to the following numbers. **Make sure to follow the rules listed in Third Night on page 62 or 64 stating to use only two prima donna numbers added together**. The first one is done for you. Show your work.

12

~~1 + 11~~
~~2 + 12~~
~~3 + 9~~
~~4 + 8~~
5 + 7
~~6 + 6~~

18

24

36

6. Notice you did not use any 2's. Why do you think this was the case?

7. Find all possible combinations of Prima Donna numbers that add up to the following numbers. **Make sure to follow the rule listed in Third Night on pages 62 or 64 stating to use THREE prima donna numbers.** The first one is done for you. Show your work.

15

~~1 + 1 + 13~~ 1 is not prime
2 + 2 + 11
~~2 + 3 + 10~~
~~2 + 4 + 9~~ 4 is not prime
~~2 + 5 + 8~~
~~2 + 6 + 7~~ 6 is not prime
3 + 5 + 7
5 + 5 + 5

17

31

35

8. Did you use the number 2 in any of your combinations? If yes, explain how you used it. If no, explain why it wasn't used.

9. Explain why you always need two prima donna numbers to add to an even number, but for odd numbers you would need three prima donna number to do all of them. (Two prima donna numbers work for some odd numbers, but not all of them)