

# PS duPont Middle School

## Welcome to 6<sup>th</sup> Grade Gifted Math!

Dear students and parents,

In order for you to be as successful as possible during the next school year, I have put together some review work for you to complete this summer. This material should be familiar to you since it was covered in your 5<sup>th</sup> grade math class. Do not use a calculator and be sure to show all work. If you require more space than what is given, complete the problem on a separate sheet of paper and attach it to the review packet.

Do your best to complete each exercise and make sure all your work is presentable. **This packet will be collected on the first week of school. The math practice book is extra if you wish to practice even more content. The book will not be collected.**

If you have any questions, please email me at [sabrina.fitzhugh@bsd.k12.de.us](mailto:sabrina.fitzhugh@bsd.k12.de.us) anytime throughout the summer. Visit my teacher page to check all of your work and answers before turning in the assignment. Feel free to email me if you are not sure why you are getting problems incorrect. <https://psdupont.brandywineschools.org/learning/gifted-services/summer-work>

Enjoy the rest of your summer and I look forward to seeing you in the new school year!

Mrs. Sabrina Fitzhugh  
P.S. duPont Middle School  
Math Teacher (GT 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grade)  
Gifted Team Leader  
7<sup>th</sup> Grade Team Leader  
MTSS Team Leader  
[www.donorschooise.org/sabrina.fitzhugh](http://www.donorschooise.org/sabrina.fitzhugh)

### 6<sup>th</sup> Grade Gifted Math Supply List

1½ inch 3-ring binder [Heavy Duty]

Mrs. Fitzhugh will provide a Cornell Notebook

Loose Leaf Paper

Pencils

Mrs. Fitzhugh will provide a pencil case with a small ruler

Donations of tissues, pencils, or eraser tops would be much appreciated.

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

## ***Divisibility Patterns***

The following rules will help you determine if a number is divisible by 2, 3, 4, 5, 6, 9, or 10.

A number is divisible by:

- 2 if the digit in the ones place is even.
- 3 if the sum of the digits is divisible by 3.
- 4 if the number formed by the last two digits is divisible by 4.
- 5 if the digit in the ones place is 0 or 5.
- 6 if the number is divisible by both 2 and 3.
- 9 if the sum of the digits is divisible by 9.
- 10 if the digit in the ones place is 0.

**Example** Determine whether 2,346 is divisible by 2, 3, 4, 5, 6, 9, or 10.

- 2: The ones digit is 6, an even number.  
So 2,346 is divisible by 2.
- 3: The sum of the digits,  $2 + 3 + 4 + 6 = 15$ , is divisible by 3.  
So 2,346 is divisible by 3.
- 4: The number formed by the last two digits, 46, is not divisible by 4.  
So 2,346 is not divisible by 4.
- 5: The ones digit is not 0 or 5.  
So 2,346 is not divisible by 5.
- 6: The number is divisible by 2 and by 3.  
So 2,346 is divisible by 6.
- 9: The sum of the digits, 15, is not divisible by 9.  
So 2,346 is not divisible by 9.
- 10: The ones digit is not 0.  
So 2,346 is not divisible by 10.

2,346 is divisible by 2, 3, and 6.

***Determine whether the first number is divisible by the second number.***

- |              |              |               |              |
|--------------|--------------|---------------|--------------|
| 1. 65 ; 5    | 2. 2,641 ; 3 | 3. 6,780 ; 10 | 4. 4,185 ; 9 |
| 5. 4,889 ; 2 | 6. 8,826 ; 4 | 7. 60,003 ; 6 | 8. 642 ; 4   |

***Determine whether each number is divisible by 2, 3, 4, 5, 6, 9, or 10.***

- |        |           |           |         |
|--------|-----------|-----------|---------|
| 9. 660 | 10. 5,025 | 11. 5,091 | 12. 356 |
|--------|-----------|-----------|---------|



Complete with  $<$ ,  $>$ , or  $=$  to make a true sentence. Use fractions to prove your answer.

1.) 0.7      0.8      2.) 4.0      3.75      3.) 4,275      4,199

4.) 6      6.0      5.) 0.2      0.3      6.) 85.751      85.76

7.) 0.345      0.2      8.) 0.07      0.1

Order the numbers from least to greatest.

9.) 0.06, .006, 0.6

10.) 4.7, 4.8, 4.75

11.) 0.09, 0.007, 0.083

Answer each question in a complete sentence.

12.) Explain why 3.4 is more or less than 3.35.

13.) Jim's time in a race was 14.73 seconds. Paul's time, was 14.6 seconds.  
Who won the race? Explain your reasoning.

## Adding Mixed Numbers

When you add mixed numbers, you may need to re-write the problem so the denominators are the same.

$$5\frac{1}{3} + 2\frac{1}{8}$$

Example:  $5\frac{8}{24} + 2\frac{3}{24}$   
 $7\frac{11}{24}$

Add by showing all steps. Simplify if possible.

1.  $2\frac{1}{4} + 3\frac{1}{8}$

2.  $3\frac{2}{3} + 4\frac{1}{9}$

3.  $6\frac{4}{7} + 5\frac{9}{14}$

4.  $7\frac{1}{2} + 12\frac{5}{6}$

5.  $3\frac{2}{3} + 4\frac{1}{4}$

6.  $1\frac{5}{8} + 4\frac{1}{6}$

7.  $8\frac{3}{5} + 9\frac{2}{7}$

8.  $10\frac{3}{10} + 4\frac{1}{3}$

### Subtracting Mixed Numbers with Borrowing

When subtracting mixed numbers, find common denominators first and borrow if necessary.

Example:

$$\begin{array}{r} 2\frac{1}{5} - 1\frac{4}{15} \\ 2\frac{3}{15} - 1\frac{4}{15} \\ 1\frac{18}{15} - 1\frac{4}{15} \\ \frac{14}{15} \end{array}$$

Subtract by showing ALL work. Simplify if possible.

1.  $6\frac{1}{10} - 2\frac{1}{6}$

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

3.  $9\frac{2}{5} - 3\frac{1}{2}$

4.  $12\frac{1}{12} - 5\frac{5}{6}$

5.  $10\frac{3}{8} - 9\frac{5}{6}$

6.  $15\frac{1}{10} - 11\frac{2}{5}$

7.  $20\frac{3}{20} - 7\frac{1}{4}$

8.  $9\frac{1}{7} - 3\frac{4}{21}$

9.  $14\frac{1}{6} - 8\frac{7}{30}$

Multiply. Show ALL work and circle your final answers.

1.  $3.7 \times 5.6$

2.  $(0.25)(0.3)$

3.  $0.3 \times 9$

4. 0.5 of 12

5.  $4.6$   
 $\times 2.3$

6. What is the product of 0.3 and 0.2?

7. 0.8 of 2.5

8.  $(0.3)(0.4)(0.5)$

9.  $(300)(0.04)$

10.  $0.003 \times 0.5$

## Multiplying Mixed Numbers and Fractions

Step 1: Change the mixed numbers into improper fractions

Step 2: Cross simplify if possible.

Step 3: Multiply the numerators and denominators straight across

Step 4: Simplify if possible.

Multiply by showing ALL work.

1.  $3\frac{1}{5} \times \frac{3}{4}$

2.  $4\frac{3}{8} \times \frac{5}{7}$

3.  $5\frac{2}{5} \times \frac{1}{4}$

4.  $7\frac{1}{9} \times \frac{3}{4}$

5.  $2\frac{1}{2} \times \frac{3}{10}$

6.  $1\frac{1}{3} \times \frac{3}{16}$

7.  $6\frac{1}{3} \times \frac{3}{5}$

8.  $3\frac{2}{7} \times \frac{1}{7}$

9.  $\frac{3}{8} \times 4\frac{1}{6}$

10.  $3\frac{7}{9} \times \frac{3}{4}$

11.  $\frac{9}{10} \times 5\frac{2}{3}$

12.  $\frac{1}{2} \times 9\frac{2}{3}$

## Division of Whole Numbers and Decimals

Divide by showing ALL work.

1.  $5\overline{)3.75}$

2. Find the quotient of 25,974 and 6.

3.  $4\overline{)51.8}$

4. Divide 108 by 0.9

5.  $364 \div 0.7$

6.  $4\overline{)3.2}$

7. Divide 439 by 0.6

8.  $0.9\overline{)35.73}$