PS duPont Middle School

Welcome to 6th 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 5th grade math class. Do not use a calculator, and 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 of your work is presentable. **This is a required assignment and it will be collected on the first day of school.**

If you have any questions, please email me at sabrina.fitzhugh@bsd.k12.de.us anytime throughout the summer. Visit my teacher page to see videos to help refresh your memory if needed. Also use 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://www.brandywineschools.org/Domain/923

Enjoy the rest of your summer and I look forward to seeing you in September!

Mrs. Sabrina Fitzhugh

Math Teacher (GT 6th,7th and 8th grade)
Gifted Team Leader
P.S. duPont Middle School

6th Grade Math Supply List

1½ inch 3-ring binder [Heavy Duty]
At least 2 spiral notebooks [3-hole punch] (You might want to get a graphing one for all notes)
Loose Leaf Paper
Pencils
Ruler [clip into binder]
Recommended: 3-hole punch pencil pouch for your binder
Donations of tissues, pencils, or eraser tops would be much appreciated.

If you choose to have an A day binder and a B day binder, that will work. Just make sure you have a separate section for math in one of them.

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

Divisibility

Complete the chart. Use the divisibility rules to determine if a number is divisible by 2, 3, 4, 5, 6, 9, or 10.

Number	Sum of the Digits	Is the number di visible by: (place checkmarks)						
		2	3	4	5	6	9	10
15								
18								
21								
28								
48								
50								
75								
125								
360								
480								
615								
720								
840								
1436								
2072								
12 ,558								
46,294								
75,592								
80,453								
98,125								

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.

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

$5\frac{8}{24}+2\frac{3}{24}$

$7\frac{11}{24}$

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

9. $7\frac{1}{6}+2\frac{2}{3}+4\frac{7}{9}$

10. $1\frac{1}{2}+6\frac{3}{4}+2\frac{5}{6}$

11. $9\frac{1}{5}+6\frac{7}{10}+3\frac{1}{2}$

Subtracting Mixed Numbers with Borrowing

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

Example:

$$2\frac{1}{5}-1\frac{4}{15}$$
$$2\frac{3}{15}-1\frac{4}{15}$$
$$1\frac{18}{15}-1\frac{4}{15}$$
$$\frac{14}{15}$$

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 x 5.6

2. (0.25)(0.3)

3. 0.3 x 9

4. 0.5 of 12

5. 4.6
   x 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 x 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. $\frac{3}{8}\times4\frac{1}{6}$

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

11. $\frac{9}{10}\times5\frac{2}{3}$

12. $\frac{1}{2}\times9\frac{2}{3}$

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. $0.9\overline{)35.73}$

9. $4.1\overline{)1.312}$

10. Divide 0.003 into 6