We will have our Fractions Unit Test next week (Thursday for 401, 402 & 403 & Friday for 404). Please use these examples as a guide to help you study for the test. The answer key will be posted on Mrs. Atmoca’s website. (at the bottom of main page)

A. COMPARING FRACTIONS
   Compare each pair of fractions using <, > or =. Explain or show your thinking.
   1. \( \frac{1}{2} \quad \geq \quad \frac{4}{12} \)
   2. \( \frac{4}{5} \quad \leq \quad \frac{8}{8} \)
   3. \( \frac{5}{6} \quad \geq \quad \frac{6}{10} \)

B. CHANGING BETWEEN MIXED NUMBERS AND IMPROPER FRACTIONS
   Change each of the following to a mixed number. Show your work.
   1. \( \frac{5}{5} = 1 \frac{1}{5} \)
   2. \( \frac{8}{3} = 2 \frac{2}{3} \)
   3. \( \frac{7}{4} = 1 \frac{3}{4} \)

   Change each of the following to an improper fraction. Show your work.
   1. \( 1 \frac{3}{8} = \frac{11}{8} \)
   2. \( 2 \frac{4}{6} = \frac{16}{6} \)
   3. \( 1 \frac{4}{5} = \frac{9}{5} \)

C. EQUIVALENT FRACTIONS
   Write three equivalent fractions for each below.
   1. \( \frac{2}{10} = \frac{1}{5} = \frac{4}{20} = \frac{3}{15} = \) or any other equiv.
   2. \( \frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} \)
   3. \( \frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12} \)

* Please note: This is not a homework assignment. We will work on it in class.

Mrs. Atmoca
D. UNIT FRACTIONS
Rewrite each of the following fractions as a sum of unit fractions.

1. \( \frac{4}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} \)
2. \( \frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} \)
3. \( \frac{4}{3} = \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} \)

E. ADDING AND SUBTRACTING FRACTIONS AND MIXED NUMBERS
Solve each problem using any strategy you have seen in class or that you know. Show your work.

1. \( \frac{3}{8} + \frac{4}{8} = \frac{7}{8} \)
2. \( 1\frac{2}{3} + 3\frac{1}{3} = 4\frac{3}{3} \)
3. \( 4\frac{2}{3} + 1\frac{2}{3} = 6\frac{1}{3} \)
4. \( 4\frac{2}{8} - 1\frac{5}{8} = 2\frac{5}{8} \)
5. \( 3\frac{1}{6} - 2\frac{3}{6} = \frac{4}{6} \)

F. FINDING FRACTION OF A NUMBER
Solve each problem. Show your work.

1. Calculate \( \frac{2}{3} \) of 24.

\[ \frac{8}{8} \quad \frac{8}{8} \quad \frac{8}{8} \]

\[ 24 \div 3 = 8 \quad 8 \times 2 = 16 \]

2. Calculate \( \frac{1}{4} \) of 20.

\[ \frac{4}{4} \quad \frac{4}{4} \quad \frac{4}{4} \quad \frac{4}{4} \]

\[ 20 \div 5 = 4 \quad 4 \times 1 = 4 \]

3. Calculate \( \frac{3}{8} \) of 32.

\[ \frac{4}{4} \quad \frac{4}{4} \quad \frac{4}{4} \quad \frac{4}{4} \]

\[ 32 \div 8 = 4 \quad 4 \times 3 = 12 \]

G. MIXED WORD PROBLEMS WITH FRACTIONS:
Solve the following word problems. Show all work.

1. Monica has $48. She spends \( \frac{1}{4} \) of her money. How much money did she spend?

\[ \frac{12}{12} \quad \frac{12}{12} \quad \frac{12}{12} \]

\[ 48 \div 4 = 12 \quad \text{She spent $12}. \]

2. Sal has 36 soccer cards. He spilled \( \frac{1}{4} \) of them. How many soccer cards does he have left?

\[ \frac{9}{9} \quad \frac{9}{9} \quad \frac{9}{9} \]

\[ 36 \div 4 = 9 \quad 36 - 9 = 27 \quad \text{He has 27 soccer cards left}. \]
3. Bella ate \( \frac{3}{10} \) of her cookies for snack one day. She ate \( \frac{4}{10} \) of her cookies for snack the second day. What fraction of the cookies does Bella still have left?

\[
\begin{align*}
\text{Day 1} & \quad \frac{4}{10} \\
\text{Day 2} & \quad \frac{3}{10} \\
\frac{4}{10} + \frac{3}{10} & = \frac{7}{10} \\
1 - \frac{7}{10} & = \frac{3}{10}
\end{align*}
\]

4. A recipe of bread calls for \( 1 \frac{3}{4} \) cups of white flour and \( 2 \frac{1}{4} \) cups of wheat flour. What is the total number of cups of flour is needed for this bread recipe?

\[
1 \frac{3}{4} + 2 \frac{1}{4} = 4 \text{ cups of flour}
\]

5. Dylan walks \( \frac{1}{4} \) of a mile in one day. How many miles does Dylan walk in 5 days?

\[
\frac{1}{3} \times 5 = \frac{5}{3} = 1 \frac{2}{3} \text{ miles}
\]

6. Emma read \( \frac{2}{5} \) of an hour every day for 20 days. How many hours did she read in total?

\[
\frac{2}{5} \times 20 = \frac{40}{5} = 8 \text{ hours}
\]

7. Thomas ran \( 3 \frac{1}{4} \) miles in the runner's club yesterday. Moa ran \( 2 \frac{3}{4} \) miles.
   a. How many more miles did Thomas run than Moa? Show your work.

\[
\begin{align*}
\text{Thomas} & \quad \frac{3}{4} + \frac{4}{4} = \frac{7}{4} \\
\text{Moa} & \quad \frac{3}{4} \\
\text{Thomas ran} & \quad \frac{7}{4} - \frac{3}{4} = \frac{4}{4} \text{ more than Moa}
\end{align*}
\]

b. How many miles did Thomas and Moa run altogether? Show your work.

\[
3 \frac{1}{4} + 2 \frac{3}{4} = \frac{5}{4} = 6 \text{ miles altogether}
\]
4. What value can replace the question mark to make the statement true?

\[ \frac{3}{8} + \_ = 7\frac{1}{8} \]

A. \(3\frac{1}{8}\)  
B. \(3\frac{7}{8}\)  
C. \(4\frac{1}{8}\)  
D. \(4\frac{7}{8}\)

5. If 30,000 is divided by 10 and then divided by 10 again, what will be the resulting number?

A. 3  
B. 30  
C. 300  
D. 3,000

\[ 30,000 \div 10 = 3,000 \]
\[ 3,000 \div 10 = 300 \]
Jason makes aprons. The shaded part below represents the fraction of a yard of fabric he uses for each apron.

\[ \frac{2}{3} \]

How many yards of fabric, in all, will Jason need to make 14 aprons?

\[ \frac{2}{3} \times 14 = \frac{28}{3} = 9 \frac{1}{3} \]

A $4 \frac{2}{3}$

B $9 \frac{1}{3}$

C $13 \frac{1}{3}$

D $14 \frac{2}{3}$
Which fraction goes into the blank to make the number sentence true?

\[
\frac{2}{3} < \ ? \ \frac{3}{4}
\]

A. \( \frac{1}{6} < \frac{1}{2} \)

B. \( \frac{3}{6} = \frac{1}{2} \)

C. \( \frac{3}{5} \)

D. \( \frac{3}{4} \)
31. The shaded parts of the fraction strips below represent two fractions.

\[
\begin{array}{c}
\text{A} \quad \frac{3}{12} \\
\text{B} \quad \frac{9}{24} \\
\text{C} \quad \frac{9}{12} \\
\text{D} \quad \frac{15}{12}
\end{array}
\]

What is the sum of the two fractions?

32. What is the value of the expression below?

\[
28 \times 42
\]

\[
\frac{3 \times 28}{42} = \frac{84}{42} = \frac{56}{28} = \frac{1120}{1176}
\]

\[
\begin{array}{c}
\text{A} \quad 420 \\
\text{B} \quad 816 \\
\text{C} \quad 1,166 \\
\text{D} \quad 1,176
\end{array}
\]
Which set of models is equivalent to the expression $2 \times \frac{4}{6}$?

- Option A: 
  
  - $\frac{8}{6}$

- Option B: 
  
  - $\frac{6}{4} = 1 \frac{2}{4}$

- Option C: 
  
  - $2 \frac{4}{6}$

- Option D: 
  
  - $\frac{8}{12}$
A recipe requires $\frac{3}{8}$ cup of sugar for each cup of flour used. If a baker uses 10 cups of flour, what is the total amount of sugar that will be needed?

Show your work.

$$\frac{3}{8} \times 10 = \frac{30}{8} = 3 \frac{6}{8}$$

Answer $\frac{36}{8}$ cup(s)

Between what two whole numbers does your answer lie?

Answer 3 and 4
The Corner Ice Cream Shop has three different types of toppings. The amounts shown below were on the shelf at the end of the day on Monday.

- \( \frac{7}{8} \) gallon chocolate sauce
- \( \frac{3}{8} \) gallon strawberry sauce
- \( \frac{4}{8} \) gallon caramel sauce

On Tuesday, the shop used \( \frac{3}{8} \) gallon of chocolate sauce, \( \frac{1}{8} \) gallon of strawberry sauce, and \( \frac{2}{8} \) gallon of caramel sauce. What was the total amount of toppings, in gallons, remaining at the end of the day on Tuesday?

**Show your work.**

\[
\text{chocolate: } \frac{7}{8} - \frac{3}{8} = \frac{4}{8} \quad \text{added together}
\]

\[
\text{strawberry: } \frac{3}{8} - \frac{1}{8} = \frac{2}{8} \quad \frac{4}{8} + \frac{2}{8} + \frac{2}{8} = \frac{8}{8}
\]

\[
\text{caramel: } \frac{4}{8} - \frac{2}{8} = \frac{2}{8}
\]

**Answer** \( \frac{1}{8} \) gallon(s)