MARNA'S NOTES

Fun w/Fractions
Guided Notes
Chapter 8 - Adding Three Fractions

Method 1 - Using Rule of 4 Twice:

Example:

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

First use Rule of 4 on the first two fractions:

$$\frac{4}{12}\quad \frac{1}{3}+\frac{3}{4}\ \frac{9}{12}=\quad \frac{4}{12}+\frac{9}{12}=\frac{13}{12}$$

$$\frac{26}{24}\quad \frac{13}{12}+\frac{1}{2}\ \frac{12}{24}=\quad \frac{26}{24}+\frac{12}{24}=\frac{38}{24}=\frac{19}{12}=1\frac{7}{12}$$

Try this problem using Rule of 4 Twice:

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

$$\frac{10}{15}\ \frac{2}{3}+\frac{1}{5}\ \frac{3}{15}\quad =\frac{10}{15}+\frac{3}{15}=\frac{13}{15}$$

$$26\ \frac{13}{15}+\frac{1}{2}\ ^{15}=\frac{41}{30}\ \text{or}\ 1\frac{11}{30}$$

Method 2 - Finding a common factor for all three fractions.

Example:

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

$$\frac{1\times4\times2}{3\times4\times2}+\frac{3\times3\times2}{4\times3\times2}+\frac{1\times3\times4}{2\times3\times4}$$

$$=\frac{8}{24}+\frac{18}{24}+\frac{12}{24}$$

$$=\frac{38}{24}=\frac{19}{12}=1\frac{7}{12}$$

Try this problem using Method 2, SHOW YOUR WORK!

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

$$\frac{2\times5\times2}{3\times5\times2}+\frac{1\times2\times3}{5\times2\times3}+\frac{1\times3\times5}{2\times3\times5}$$

$$\frac{20}{30}+\frac{6}{30}+\frac{15}{30}=\frac{41}{30}=1\frac{11}{30}$$

Method 3:

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

First, we need to see that the least common multiple of 2, 4 and 8 for the denominator IS 8, so 3/8 is done. Now we need to modify the first two fractions by multiplying by a form of 1 to get a common denominator of 8.

$$\frac{1 \times 4}{2 \times 4} + \frac{1 \times 2}{4 \times 2} + \frac{3}{8} = \frac{4}{8} + \frac{2}{8} + \frac{3}{8} =$$

$$\frac{9}{8}$$

Try this problem using Method 3:

$$\frac{1}{10} + \frac{2}{5} + \frac{1}{2}$$

$$\frac{1}{10} + \frac{2 \cdot 2}{5 \cdot 2} + \frac{1 \cdot 5}{2 \cdot 5}$$

$$\frac{1+4+5}{10} = \frac{10}{10} = 1$$