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| **MODULE:** 4 | **LESSON:** 1 | APPLYING GCF AND LCM TO FRACTION OPERATIONS |

**MULTIPLYING FRACTIONS**

**Step 1:** Multiply the numerators

**Step 2:** Multiply the denominators

**Step 3:** Simplify your answer

$$\frac{3}{4} • \frac{2}{9} = \frac{3 •2}{4 •9} = \frac{6}{36} = \frac{1}{6}$$

**MULTIPLYING MIXED NUMBERS**

**Step 1:** Change the mixed number to an improper fraction

**Step 2:** Multiply the numerators and then the denominators

**Step 3:** Change the answer back into a mixed number and simplify

3$\frac{1}{2} • 2\frac{2}{3} = \frac{7}{2} • \frac{8}{3} = \frac{56}{6} = 9\frac{2}{6} = 9\frac{1}{3}$

**ADDDING/SUBTRACTING FRACTIONS**

**To add and subtract fractions with *like denominators*, add or subtract the numerators and keep the common denominator.**

Example:

$\frac{2}{7}$ **+** $\frac{3}{7}$ **=** $\frac{2+3}{7}= \frac{5}{7}$

**To add or subtract fractions with *different denominators*, you must rewrite the fractions with a common denominator. (Multiply each fraction by the other’s denominator to get equivalent fractions with common denominators)**

Example:

$\frac{3}{4}$ **-** $\frac{2}{3}$

$$\frac{3 •3}{4 • 3}= \frac{9}{12} \frac{2 •4}{3 •4}= \frac{8}{12}$$

$$\frac{9}{12}- \frac{8}{12}= \frac{1}{12}$$

**ADDING MIXED NUMBERS:**

Step 1: *Add the fractions*

Step 2: *Add the integers*

Step 3: *Simplify your answer*

*4*$\frac{1}{4}+ 4\frac{3}{8} = 4\frac{2}{8 }+ 4\frac{3}{8} = 8+\frac{5}{8} = 8\frac{5}{8} $

**SUBTRACTING MIXED NUMBERS:**

Same rules apply as above, except you might need to borrow if the fraction in the first mixed number is smaller than the fraction in the second.

17$\frac{1}{8}- 12\frac{3}{8}$ cannot do $\frac{1}{8}- \frac{3}{8}$ , so you must borrow **one** from the 17 and add that **one** to $\frac{1}{8}$

17$\frac{1}{8}$ = 16$\frac{1}{8}+ \frac{8}{8 }$ = 16$\frac{9}{8}$ (remember $\frac{8}{8 }=1$)

Now you can subtract…..

16$\frac{9}{8}$ - $12\frac{3}{8}$ = 4$\frac{6}{8}$ = 4$\frac{3}{4}$