Accelerated Math Notes
(Section 3-6)
Adding & Subtracting UnLike Fractions

** Your book shows you to write mixed numbers as improper fractions, get a common denominator, and add or subtract. This is only efficient when the integer part of the number is small. Therefore to be sure you have enough time on quizzes/tests, be sure to practice keeping the problem in mixed number form.

Example:

$7\frac{3}{5} - 3\frac{2}{3}$

$\frac{38}{5} \cdot \frac{3}{3} - \frac{11}{3} \cdot \frac{5}{5}$

$\frac{114}{15} - \frac{55}{15} = \frac{59}{15}$

$= 3\frac{14}{15}$

$7\frac{3}{5} = 7\frac{9}{15} = 6\frac{24}{15}$

$-3\frac{2}{3} = 3\frac{10}{15} = 3\frac{10}{15}$

$3\frac{14}{15}$

$87\frac{2}{3} - 56\frac{3}{4}$

Efficient

$87\frac{2}{3} = 87\frac{8}{12} = 86\frac{20}{12}$

$-56\frac{3}{4} = 56\frac{9}{12} = 56\frac{9}{12}$

$30\frac{11}{12}$

$87\frac{2}{3} - 56\frac{3}{4}$

$\frac{263}{3}\frac{(4)}{(4)} - \frac{227}{4}\frac{(3)}{(3)}$

$\frac{1052}{12} - \frac{681}{12}$

$\frac{371}{12}$

Not efficient

$30\frac{11}{12}$

Find each sum or difference. Write answer in simplest form.

$$-\frac{5}{6}+\frac{1}{8}$$

$$-\frac{5}{6}\cdot\frac{4}{4}+\frac{1}{8}\cdot\frac{3}{3}$$

$$-\frac{20}{24}+\frac{3}{24}$$

$$\frac{-17}{24}$$

$$-12\frac{3}{10}+-5\frac{3}{4}$$

Add $\longrightarrow$ Ans neg

$$12\frac{3}{10}=12\frac{6}{20}$$

$$+5\frac{3}{4}=5\frac{15}{20}$$

$$17\frac{21}{20}$$

$$17+1\frac{1}{20}$$

$$18\frac{1}{20}$$

$$-18\frac{1}{20}$$

Find each sum or difference. Write answer in simplest form.

$17\frac{2}{3} - 41\frac{3}{5}$

$17\frac{2}{3} + -41\frac{3}{5}$

subtr → Ans. neg

$-23\frac{14}{15}$

$41\frac{3}{5} = 41\frac{9}{15} = 40\frac{24}{15}$

$-17\frac{2}{3} = 17\frac{10}{15} = 17\frac{10}{15}$

$23\frac{14}{15}$

$5\frac{1}{3} - (-10\frac{4}{9})$

$5\frac{1}{3} + 10\frac{4}{9}$

Add → pos

+

$5\frac{1}{3} = 5\frac{3}{9}$

$+10\frac{4}{9} = 10\frac{4}{9}$

$15\frac{7}{9}$

$15\frac{7}{9}$

Find each sum or difference. Write answer in simplest form.

$-8\frac{5}{6} + 18\frac{2}{9}$

subtract ⟶ Ans. pos

$18\frac{2}{9} = 18\frac{4}{18} = 17\frac{22}{18}$

$-\ 8\frac{5}{6} = 8\frac{15}{18} = 8\frac{15}{18}$

$9\frac{7}{18}$

$9\frac{7}{18}$

$-48\frac{1}{2} - 31\frac{5}{8}$

$-48\frac{4}{8} + -31\frac{5}{8}$

Add ⟶ Ans. neg.

$48\frac{4}{8}$

$+31\frac{5}{8}$

$79\frac{9}{8} = 80\frac{1}{8}$

$-80\frac{1}{8}$

Find each sum or difference. Write answer in simplest form.

$-80\frac{1}{9} - \left(-50\frac{1}{2}\right)$

$-80\frac{2}{18} + 50\frac{9}{18}$

Subtract abs. values → Ans. neg

$80\frac{2}{18} = 79\frac{20}{18}$

$-50\frac{9}{18} = 50\frac{9}{18}$

$29\frac{11}{18}$

$-29\frac{11}{18}$

$-25\frac{3}{10} + -41\frac{5}{12}$

$-25\frac{18}{60} + -41\frac{25}{60}$

Add abs. values → Ans. neg

$25\frac{18}{60}$

$+41\frac{25}{60}$

$66\frac{43}{60}$

$-66\frac{43}{60}$

Find each sum or difference. Write answer in simplest form.

$-\frac{4}{5} - \frac{1}{4}$

$-\frac{4}{5} \cdot \frac{4}{4} + \frac{-1}{4} \cdot \frac{5}{5}$

$\frac{-16}{20} + \frac{-5}{20}$

$\frac{-21}{20}$

$-1\frac{1}{20}$

$2\frac{5}{8} + -16\frac{1}{6}$

$2\frac{15}{24} + -16\frac{4}{24}$

Subtract ⟶ Ans neg

$16\frac{4}{24} = 15\frac{28}{24}$

$-13\frac{13}{24}$

$2\frac{15}{24} - 2\frac{15}{24}$

$13\frac{13}{24}$