2-6 Adding and Subtracting Unlike Fractions

Step 1.

Find the common denominator (LCM)

Least Common Multiple

Ex: $\frac{1}{4} \overset{+2}{=} \frac{2}{8}$

$+ \quad \frac{3}{8} = \frac{3}{8}$

$\frac{5}{8}$

4: 4 (8) 12 16 20 . . .

8: (8) 16 24

2. Change the fractions so that they both have the same denominator (rename)

3. Add or Subtract the numerator
4. Denominator stays the same
5. Reduce or Simplify

$$-\frac{2}{3}-\left(-\frac{3}{8}\right)$$

watch out!

$$-\frac{2}{3}+\left(+\frac{3}{8}\right)$$

$$-\frac{2\times 8}{3\times 8}=\frac{-16}{24}$$

$$+\frac{3\times 3}{8\times 3}=\frac{+9}{24}$$

$$\frac{-7}{24}$$

Lcm = 24

3: 3, 6, 9, 12, 15, 18, 21, 24

8: 8, 16, 24, 32, 40

$$\frac{-16+9}{24}=\frac{-7}{24}$$

$-6\frac{2}{9} + 4\frac{5}{6}$

LCM = 18

6: 6 12 (18)

9: 9 (18)

$\frac{2}{9} = \frac{4}{18}$ (×2) $= \frac{22}{18}$

$4\frac{5}{6} = \frac{15}{18}$ (×3)

$-6\frac{4}{18} + 4\frac{15}{18}$

Treat as if positive

$\frac{-112 + 87}{18} = \frac{-25}{18}$

$-1\frac{7}{18}$

$-1\frac{7}{18}$

Subtract when you have one # that is positive one that is negative.

$$-\frac{1}{3} - -\frac{3}{4}$$

$$-\frac{4}{12} + \frac{9}{12} \quad \frac{5}{12} \quad -\frac{4}{12} + \frac{3}{4}\times\frac{3}{3} = +\frac{9}{12}$$

$$-\frac{5}{6}+\left(-\frac{1}{2}\right)=$$

$$-\frac{5}{6}+\left(-\frac{3}{6}\right)=-\frac{8}{6}=-1\frac{1}{3}$$

$-\frac{1}{2} + \frac{7}{8} = -\frac{4}{8} + \frac{7}{8} = \frac{3}{8}$

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

$-\frac{7}{2} + \frac{25}{3}$

$\frac{7 \times 3}{2 \times 3} = \frac{21}{6}$ $\quad \frac{25 \times 2}{3 \times 2} = \frac{50}{6}$

$-\frac{21}{6} + \frac{50}{6} = \frac{29}{6}$

$4\frac{5}{6}$

F)

$$-1\frac{2}{5}+(-3\frac{1}{3})$$

$$-1\frac{6}{15}+(-3\frac{5}{15})$$

$$-4\frac{11}{15}$$

$2\frac{3}{4} - 6\frac{1}{3} =$

$2\frac{9}{12} - 6\frac{4}{12} =$

If the numbers have different signs (one positive one negative) subtract them!

$5\ \frac{4}{12} + \frac{8}{12} = -5\frac{16}{12}$

$+2\frac{9}{12} \qquad +2\frac{9}{12}$

$-3\frac{7}{12}$