T-MF Math Fundamentals Week 13 12/10

$3\frac{1}{4} + 5\frac{2}{3}$

$3\frac{3}{12} + 5\frac{8}{12}$

$3+5=8 \quad \frac{3}{12}+\frac{8}{12}=\frac{11}{12}$

$8\frac{11}{12}$

Find common denominators

$\frac{1}{4} \overset{*3}{=} \frac{3}{12}$ $\quad \frac{2}{3} \overset{*4}{=} \frac{8}{12}$

Strategies to find common denominators.

#1: Multiples

4: 4, 8, **12**, 16, 20, 24 ...

3: 3, 6, 9, **12**, 15, 18, ...

Negative: Long

#2: Multiply Denominators

$4 * 3 = 12$

Negative: Probably will not be lowest. Must reduce.

$8 * 5 = 40$

$8\frac{5}{8} - 3\frac{2}{5}$

$8\frac{25}{40} - 3\frac{16}{40}$

$8-3=5 \quad \frac{25}{40}-\frac{16}{40}=\frac{9}{40}$

$\frac{5}{8} \overset{*5}{=} \frac{25}{40}$ $\quad \frac{2}{5} \overset{*8}{=} \frac{16}{40}$

$5\frac{9}{40}$

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

$\frac{1}{2} \xrightarrow{*3} \frac{3}{6}$ $\quad \frac{2}{3} \xrightarrow{*2} \frac{4}{6}$

$\downarrow \quad \downarrow$

$\cancel{4}^{3}\frac{3}{6}^{+6} - 2\frac{4}{6}$

$3\frac{9}{6} - 2\frac{4}{6}$

$3-2=1 \quad \frac{9}{6} - \frac{4}{6} = \frac{5}{6}$

$\boxed{1\frac{5}{6}}$

$10\frac{1}{4} - \frac{3}{4}$

$9\frac{4}{4} + \frac{1}{4} - \frac{3}{4}$

$9\frac{5}{4} - \frac{3}{4}$

$\boxed{9\frac{2}{4}}$

1.) $6\frac{1}{3} + 3\frac{6}{7}$

$\frac{1}{3} \xrightarrow{*7} \frac{7}{21}$ $\quad \frac{6}{7} \xrightarrow{*3} \frac{18}{21}$

$6\frac{7}{21} + 3\frac{18}{21}$

$6+3=9 \quad \frac{7}{21} + \frac{18}{21} = \frac{25}{21} \Rightarrow \frac{25}{21}$

$21\overline{)25}$ = 1, -21, 4 $\quad 1\frac{4}{21}$

$1\frac{4}{21}$

$9 + 1\frac{4}{21} = \boxed{10\frac{4}{21}}$

2.) $9\frac{1}{6} - 5\frac{3}{4}$

$\frac{1}{6} \xrightarrow{*2} \frac{2}{12}$ $\quad \frac{3}{4} \xrightarrow{*3} \frac{9}{12}$

$\cancel{9}^{8}\frac{2}{12}^{+12} - 5\frac{9}{12}$

$8\frac{14}{12} - 5\frac{9}{12}$

$8-5=3 \quad \frac{14}{12} - \frac{9}{12} = \frac{5}{12}$

$\boxed{3\frac{5}{12}}$

Multiplying Fractions

$\frac{3}{4} * \frac{3}{5} = \boxed{\frac{9}{20}}$

$\frac{3}{7} * \frac{4}{9} = \frac{12 \div 3}{63 \div 3} = \boxed{\frac{4}{21}}$

$\frac{3}{7} * \frac{4}{9}$ (÷3 on 3 and 9)

$\frac{1}{7} * \frac{4}{3} = \boxed{\frac{4}{21}}$

$\frac{1}{2} * \frac{2}{3} = \frac{2 \div 2}{6 \div 2} = \boxed{\frac{1}{3}}$

$\frac{1}{2} * \frac{2}{3}$ (÷2 on 2 and 2)

$\frac{1}{1} * \frac{1}{3} = \boxed{\frac{1}{3}}$

$\frac{12}{18} * \frac{9}{24}$ (÷6 on 12 and 18)

$\frac{12}{18} * \frac{9}{24} = \frac{108 \div 108}{432 \div 108} = \boxed{\frac{1}{4}}$

$\frac{2}{3} * \frac{9}{24}$ (÷3 on 9 and 24)

$\frac{2}{3} * \frac{3}{8}$ (÷3 on 3 and 3)

$\frac{2}{1} * \frac{1}{8}$ (÷2 on 2 and 8)

$\frac{1}{1} * \frac{1}{4} = \boxed{\frac{1}{4}}$

1.) $\frac{4}{5} * \frac{1}{3} = \boxed{\frac{4}{15}}$

2.) $\frac{3}{8} * \frac{2}{7}$ (÷2 on 8 and 2)

$\frac{3}{4} * \frac{1}{7} = \boxed{\frac{3}{28}}$

3.) $\frac{2}{4} * \frac{1}{4} = \frac{2}{16} \div 2 = \boxed{\frac{1}{8}}$

4.) $\frac{8}{12} * \frac{8}{20}$ (÷4 on 8 and 12)

$\frac{2}{3} * \frac{8}{20}$ (÷4 on 8 and 20)

$\frac{2}{3} * \frac{2}{5} = \boxed{\frac{4}{15}}$