F: Applying Fraction Operations

Steps:

1. Change mixed to improper.
2. Follow BEDMAS (Brackets, Exponents, Divide, Multiply, Add, Subtract)

* Remember Add/Subtract you need to find a common denominator.
* Remember Divide you need to "flip" and multiply.

All answers should be in lowest reduced fractional form.

Examples:

1. $\frac{3}{5} - \frac{1}{3} \times \frac{2}{5}$

BEDMAS

$= \frac{3}{5} + \left[-\frac{1}{3} \times \frac{2}{5}\right]$

Can't Cross Reduce. (TOP x TOP; BOT x BOT)

$= \frac{3}{5} - \frac{2}{15}$

Find common denominator.

$= \frac{9}{15} - \frac{2}{15}$

TOP − TOP only!

$= \frac{7}{15}$

Lowest Reduced Form.

2. $6\frac{1}{2} + 4\frac{1}{2} \times \left(2\frac{1}{4} - \frac{3}{4}\right)$

$= \frac{13}{2} + \frac{9}{2} \times \left(\frac{9}{4} - \frac{3}{4}\right)$ BEDMAS

$= \frac{13}{2} + \frac{9}{2} \times \left(\frac{6}{4}\right)$ * Reduce $\frac{6}{4}$

$\frac{13}{2} + \frac{9}{2} \times \frac{3}{2}$ BEDMAS

$= \frac{13}{2} + \frac{27}{2}$ BEDMAS

$= \frac{40}{2}$ BEDMAS

$= 20$

3. $\frac{1}{3} + \frac{3}{7} \div \frac{3}{8} \div \frac{1}{5}$ BEDMAS

$= \frac{1}{3} + \left(\frac{3}{7} \div \frac{3}{8}\right) \div \frac{1}{5}$

$= \frac{1}{3} + \left(\frac{\cancel{3}^{1}}{7} \times \frac{8}{\cancel{3}_{1}}\right) \div \frac{1}{5}$ Cross Reduce

$= \frac{1}{3} + \frac{8}{7} \div \frac{1}{5}$ BEDMAS

$= \frac{1}{3} + \left(\frac{8}{7} \div \frac{1}{5}\right)$

$= \frac{1}{3} + \left(\frac{8}{7} \times \frac{5}{1}\right)$

$= \frac{1}{3_{\times 7}}^{\times 7} + \frac{40}{7_{\times 3}}^{\times 3}$ BEDMAS * common denominator.

$= \frac{7}{21} + \frac{120}{21}$

$= \frac{127}{21}$ lowest reduced form.

4. $2\frac{2}{5} \times 4\frac{1}{2} \div \left(2\frac{1}{8} - \frac{2}{3}\right)$

$= \frac{12}{5} \times \frac{9}{2} \div \left(\frac{17}{8}^{\times 3} - \frac{2}{3}^{\times 8}\right)$ BEDMAS * Need Common denominator.

$= \frac{12}{5} \times \frac{9}{2} \div \left(\frac{51}{24} - \frac{16}{24}\right)$

$= \frac{12}{5} \times \frac{9}{2} \div \left(\frac{35}{24}\right)$ BEDMAS

$= \frac{12}{5} \times \frac{9}{\cancel{2}_{1}} \times \frac{\cancel{24}^{12}}{35}$ Cross Reduce

$= \frac{12}{5} \times \frac{108}{35}$ Can't Cross Reduce

$= \frac{1296}{175}$

Assignment Page 234 # 4, 5, 13, 14(a,