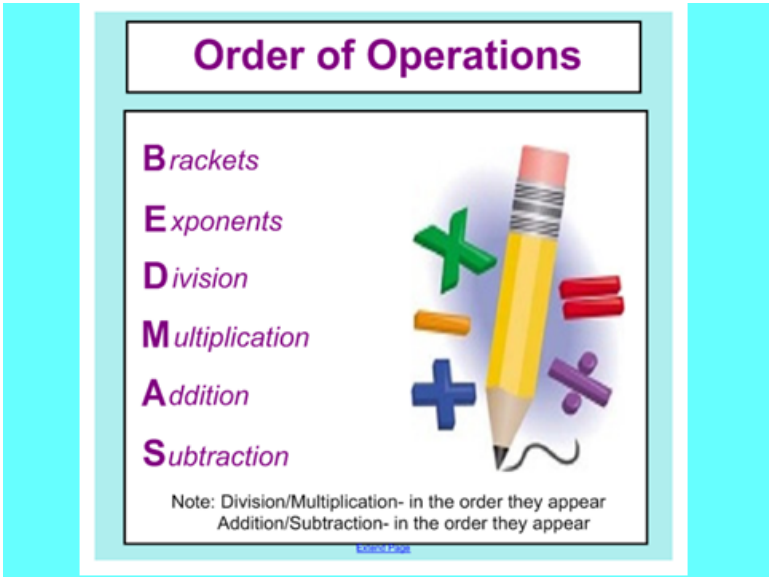
Section 3.9- Order of Operations with Fractions



Ex 1) $\frac{1}{7} \div (\frac{4}{5} \times \frac{1}{2} - \frac{1}{5})$

Ex 2) $\frac{1}{5} \times \frac{1}{2} + \frac{1}{3} \div 2$

BEDMAS.

$\frac{1}{10} + \frac{1}{3} \div 2$

$\frac{1}{10} + \frac{1}{3} \div \frac{2}{1}$

$\frac{1}{10} + \frac{1}{3} \times \frac{1}{2}$

$\frac{1}{10} + \frac{1}{6}$ (×3, ×5)

$\frac{3}{30} + \frac{5}{30}$ (×3, ×5) ← Common Denominator

$= \frac{8}{30}$ ÷2, ÷2 ← Reduce

$= \frac{4}{15}$

Evaluate. $\frac{2}{3} \times \frac{7}{8} - \frac{1}{3}$

BEDMAS

$\frac{14}{21} - \frac{1}{3}$ (×7, ×7) ← Common Denominator

$\frac{14}{21} - \frac{7}{21}$

$= \frac{7}{21}$ ÷7, ÷7 ← Reduce

$= \frac{1}{3}$

Evaluate. $\frac{7}{8}+\left(\frac{3}{4}-\frac{1}{8}\right)\times\frac{4}{5}$

BEDMAS

$\frac{7}{8}+\left(\frac{6}{8}-\frac{1}{8}\right)\times\frac{4}{5}$

$=\frac{7}{8}+\frac{5}{8}\times\frac{4}{5}$

$=\frac{7}{8}+\frac{\cancel{8}^{\div 4=2}}{\cancel{8}^{\div 4=2}}\times\frac{\cancel{4}^{\div 4=1}}{\cancel{5}^{\div 5=1}}$

$=\frac{7}{8}+\frac{1}{2}$ (x4)

$=\frac{7}{8}+\frac{4}{8}$

$=\frac{11}{8}$

$=1\frac{3}{8}$

Evaluate. $\frac{5}{9}\div\frac{4}{9}+\frac{1}{3}$

BEDMAS

$\frac{5}{\cancel{9}^{\div 9=1}}\times\frac{\cancel{9}^{\div 9=1}}{4}+\frac{1}{3}$

$=\frac{5}{4}+\frac{1}{3}$ (x3, x4)

$=\frac{15}{12}+\frac{4}{12}$

$=\frac{19}{12}$

$=1\frac{7}{12}$