Order of Operations with Fractions (C)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$\frac{4}{5} - \frac{2}{9} \div \left(\frac{1}{6} + \frac{2}{3}\right) \times \left(\frac{1}{5} + \frac{1}{2}\right) \div \frac{8}{9}$

$\left(\frac{4}{5} \div \frac{3}{5}\right) \times \left(\left(\frac{5}{8} - \frac{3}{8} + \frac{1}{3} + \frac{1}{6}\right) \times \frac{7}{8}\right)$

$\left(\frac{1}{9} \div \frac{3}{4}\right) \times \left(\frac{4}{9} - \frac{1}{8} + \frac{3}{8} - \frac{1}{6} + \frac{5}{9}\right)$

$\left(\frac{1}{6} \div \frac{1}{4}\right) \times \left(\frac{1}{8} + \frac{5}{8} - \frac{3}{4}\right) \div \left(\frac{3}{5} + \frac{7}{8}\right)$

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$\frac{4}{5} - \frac{2}{9} \div \left(\frac{1}{6} + \frac{2}{3}\right) \times \left(\frac{1}{5} + \frac{1}{2}\right) \div \frac{8}{9}$

$= \frac{4}{5} - \frac{2}{9} \div \frac{5}{6} \times \left(\frac{1}{5} + \frac{1}{2}\right) \div \frac{8}{9}$

$= \frac{4}{5} - \frac{2}{9} \div \frac{5}{6} \times \frac{7}{10} \div \frac{8}{9}$

$= \frac{4}{5} - \frac{4}{15} \times \frac{7}{10} \div \frac{8}{9}$

$= \frac{4}{5} - \frac{14}{75} \div \frac{8}{9}$

$= \frac{4}{5} - \frac{21}{100}$

$= \frac{59}{100}$

$\left(\frac{4}{5} \div \frac{3}{5}\right) \times \left(\left(\frac{5}{8} - \frac{3}{8} + \frac{1}{3} + \frac{1}{6}\right) \times \frac{7}{8}\right)$

$= \frac{4}{3} \times \left(\left(\frac{5}{8} - \frac{3}{8} + \frac{1}{3} + \frac{1}{6}\right) \times \frac{7}{8}\right)$

$= \frac{4}{3} \times \left(\left(\frac{1}{4} + \frac{1}{3} + \frac{1}{6}\right) \times \frac{7}{8}\right)$

$= \frac{4}{3} \times \left(\left(\frac{7}{12} + \frac{1}{6}\right) \times \frac{7}{8}\right)$

$= \frac{4}{3} \times \left(\frac{3}{4} \times \frac{7}{8}\right)$

$= \frac{4}{3} \times \frac{21}{32}$

$= \frac{7}{8}$

$\left(\frac{1}{9} \div \frac{3}{4}\right) \times \left(\frac{4}{9} - \frac{1}{8} + \frac{3}{8} - \frac{1}{6} + \frac{5}{9}\right)$

$= \frac{4}{27} \times \left(\frac{4}{9} - \frac{1}{8} + \frac{3}{8} - \frac{1}{6} + \frac{5}{9}\right)$

$= \frac{4}{27} \times \left(\frac{23}{72} + \frac{3}{8} - \frac{1}{6} + \frac{5}{9}\right)$

$= \frac{4}{27} \times \left(\frac{25}{36} - \frac{1}{6} + \frac{5}{9}\right)$

$= \frac{4}{27} \times \left(\frac{19}{36} + \frac{5}{9}\right)$

$= \frac{4}{27} \times \frac{13}{12}$

$= \frac{13}{81}$

$\left(\frac{1}{6} \div \frac{1}{4}\right) \times \left(\frac{1}{8} + \frac{5}{8} - \frac{3}{4}\right) \div \left(\frac{3}{5} + \frac{7}{8}\right)$

$= \frac{2}{3} \times \left(\frac{1}{8} + \frac{5}{8} - \frac{3}{4}\right) \div \left(\frac{3}{5} + \frac{7}{8}\right)$

$= \frac{2}{3} \times \left(\frac{3}{4} - \frac{3}{4}\right) \div \left(\frac{3}{5} + \frac{7}{8}\right)$

$= \frac{2}{3} \times 0 \div \left(\frac{3}{5} + \frac{7}{8}\right)$

$= \frac{2}{3} \times 0 \div \frac{59}{40}$

$= 0 \div \frac{59}{40}$

$= 0$