Order of Operations with Fractions (E)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$\left(\frac{3}{4} \times \left(\frac{8}{9} - \frac{7}{8}\right)\right) \div \frac{1}{8} + \frac{5}{8} - \frac{4}{9}$

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

$\left(\frac{4}{9} \div \frac{5}{8}\right) \times \left(\left(\frac{1}{9} + \frac{7}{9} - \frac{5}{6}\right) \div \frac{2}{9}\right)$

$\left(\frac{1}{2} \div \left(\frac{2}{9} + \frac{1}{6}\right)\right) \times \frac{7}{9} - \frac{3}{5} \times \frac{5}{9}$

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$\left(\frac{3}{4} \times \left(\frac{8}{9} - \frac{7}{8}\right)\right) \div \frac{1}{8} + \frac{5}{8} - \frac{4}{9}$

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

$= \frac{1}{96} \div \frac{1}{8} + \frac{5}{8} - \frac{4}{9}$

$= \frac{1}{12} + \frac{5}{8} - \frac{4}{9}$

$= \frac{17}{24} - \frac{4}{9}$

$= \frac{19}{72}$

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

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

$= \frac{8}{9} \div \frac{2}{3} \times \left(\frac{3}{8} \div \frac{1}{5}\right)$

$= \frac{8}{9} \div \frac{2}{3} \times \frac{15}{8}$

$= \frac{4}{3} \times \frac{15}{8}$

$= \frac{5}{2}$

$= 2\frac{1}{2}$

$\left(\frac{4}{9} \div \frac{5}{8}\right) \times \left(\left(\frac{1}{9} + \frac{7}{9} - \frac{5}{6}\right) \div \frac{2}{9}\right)$

$= \frac{32}{45} \times \left(\left(\frac{1}{9} + \frac{7}{9} - \frac{5}{6}\right) \div \frac{2}{9}\right)$

$= \frac{32}{45} \times \left(\left(\frac{8}{9} - \frac{5}{6}\right) \div \frac{2}{9}\right)$

$= \frac{32}{45} \times \left(\frac{1}{18} \div \frac{2}{9}\right)$

$= \frac{32}{45} \times \frac{1}{4}$

$= \frac{8}{45}$

$\left(\frac{1}{2} \div \left(\frac{2}{9} + \frac{1}{6}\right)\right) \times \frac{7}{9} - \frac{3}{5} \times \frac{5}{9}$

$= \left(\frac{1}{2} \div \frac{7}{18}\right) \times \frac{7}{9} - \frac{3}{5} \times \frac{5}{9}$

$= \frac{9}{7} \times \frac{7}{9} - \frac{3}{5} \times \frac{5}{9}$

$= 1 - \frac{3}{5} \times \frac{5}{9}$

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

$= \frac{2}{3}$