Order of Operations with Fractions (E)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

$\left(\frac{7}{8} \div \left(\frac{1}{2} \right)^3 + \frac{1}{6} \right) \times \frac{3}{4} - \frac{1}{8}$

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

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

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

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

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

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

$= \frac{4}{5} \times 0$

$= 0$

$\left(\frac{7}{8} \div \left(\frac{1}{2} \right)^3 + \frac{1}{6} \right) \times \frac{3}{4} - \frac{1}{8}$

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

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

$= \frac{43}{6} \times \frac{3}{4} - \frac{1}{8}$

$= \frac{43}{8} - \frac{1}{8}$

$= \frac{21}{4}$

$= 5\frac{1}{4}$

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

$= \left(\frac{1}{3} - \frac{1}{15} \right) \div \left(\frac{4}{9} + \left(\frac{2}{3} \right)^3 \right)$

$= \frac{4}{15} \div \left(\frac{4}{9} + \left(\frac{2}{3} \right)^3 \right)$

$= \frac{4}{15} \div \left(\frac{4}{9} + \frac{8}{27} \right)$

$= \frac{4}{15} \div \frac{20}{27}$

$= \frac{9}{25}$

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

$= \left(\frac{4}{5} \times \frac{49}{64} \right) \div \left(\frac{3}{8} + \frac{1}{4} - \frac{1}{2} \right)$

$= \frac{49}{80} \div \left(\frac{3}{8} + \frac{1}{4} - \frac{1}{2} \right)$

$= \frac{49}{80} \div \left(\frac{5}{8} - \frac{1}{2} \right)$

$= \frac{49}{80} \div \frac{1}{8}$

$= \frac{49}{10}$

$= 4\frac{9}{10}$