Order of Operations with Fractions (G)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

$\left(\left(\frac{1}{3}\right)^2 \times \frac{8}{9}\right) \div \left(\frac{1}{6} + \frac{3}{4} - \frac{7}{8}\right)$

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

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

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

$= \frac{1}{5} \times \frac{5}{6} \div \left(\frac{1}{6} + \frac{9}{16} - \frac{1}{2}\right)$

$= \frac{1}{5} \times \frac{5}{6} \div \left(\frac{35}{48} - \frac{1}{2}\right)$

$= \frac{1}{5} \times \frac{5}{6} \div \frac{11}{48}$

$= \frac{1}{6} \div \frac{11}{48}$

$= \frac{8}{11}$

$\left(\left(\frac{1}{3}\right)^2 \times \frac{8}{9}\right) \div \left(\frac{1}{6} + \frac{3}{4} - \frac{7}{8}\right)$

$= \left(\frac{1}{9} \times \frac{8}{9}\right) \div \left(\frac{1}{6} + \frac{3}{4} - \frac{7}{8}\right)$

$= \frac{8}{81} \div \left(\frac{1}{6} + \frac{3}{4} - \frac{7}{8}\right)$

$= \frac{8}{81} \div \left(\frac{11}{12} - \frac{7}{8}\right)$

$= \frac{8}{81} \div \frac{1}{24}$

$= \frac{64}{27}$

$= 2\frac{10}{27}$

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

$= \left(\frac{1}{36} + \frac{2}{9}\right) \div \left(\frac{7}{9} \times \frac{7}{8} - \frac{1}{2}\right)$

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

$= \frac{1}{4} \div \left(\frac{49}{72} - \frac{1}{2}\right)$

$= \frac{1}{4} \div \frac{13}{72}$

$= \frac{18}{13}$

$= 1\frac{5}{13}$

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

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

$= \frac{16}{5} \times \left(\frac{1}{4} + \frac{1}{9} - \frac{1}{3}\right)$

$= \frac{16}{5} \times \left(\frac{13}{36} - \frac{1}{3}\right)$

$= \frac{16}{5} \times \frac{1}{36}$

$= \frac{4}{45}$