

Order of Operations with Fractions (I)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

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$$\begin{aligned} & \left(\frac{3}{8} \div \frac{1}{2} \right) \times \left(\frac{1}{3} + \frac{4}{9} - \frac{7}{9} \right)^2 \\ &= \frac{3}{4} \times \left(\frac{1}{3} + \frac{4}{9} - \frac{7}{9} \right)^2 \\ &= \frac{3}{4} \times \left(\frac{7}{9} - \frac{7}{9} \right)^2 \\ &= \frac{3}{4} \times \underline{0^2} \\ &= \underline{\frac{3}{4} \times 0} \\ &= 0 \end{aligned}$$

$$\begin{aligned} & \left(\left(\frac{1}{6} \right)^2 + \frac{3}{4} - \frac{1}{2} \right) \div \frac{5}{6} \times \frac{1}{9} \\ &= \left(\frac{1}{36} + \frac{3}{4} - \frac{1}{2} \right) \div \frac{5}{6} \times \frac{1}{9} \\ &= \left(\frac{7}{9} - \frac{1}{2} \right) \div \frac{5}{6} \times \frac{1}{9} \\ &= \frac{5}{18} \div \frac{5}{6} \times \frac{1}{9} \\ &= \underline{\frac{1}{3} \times \frac{1}{9}} \\ &= \underline{\frac{1}{27}} \end{aligned}$$

$$\begin{aligned} & \frac{1}{9} \times \left(\frac{1}{5} \div \left(\frac{4}{5} \right)^2 + \frac{3}{5} - \frac{1}{8} \right) \\ &= \frac{1}{9} \times \left(\frac{1}{5} \div \frac{16}{25} + \frac{3}{5} - \frac{1}{8} \right) \\ &= \frac{1}{9} \times \left(\frac{5}{16} + \frac{3}{5} - \frac{1}{8} \right) \\ &= \frac{1}{9} \times \left(\frac{73}{80} - \frac{1}{8} \right) \\ &= \underline{\frac{1}{9} \times \frac{63}{80}} \\ &= \underline{\frac{7}{80}} \end{aligned}$$

$$\begin{aligned} & \left(\frac{4}{5} - \frac{5}{9} \right) \div \left(\frac{1}{2} \right)^3 \times \frac{5}{8} + \frac{3}{5} \\ &= \frac{11}{45} \div \left(\frac{1}{2} \right)^3 \times \frac{5}{8} + \frac{3}{5} \\ &= \frac{11}{45} \div \frac{1}{8} \times \frac{5}{8} + \frac{3}{5} \\ &= \frac{88}{45} \times \frac{5}{8} + \frac{3}{5} \\ &= \underline{\frac{11}{9} + \frac{3}{5}} \\ &= \frac{82}{45} \\ &= \underline{1 \frac{37}{45}} \end{aligned}$$