

Order of Operations with Fractions (D)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

$$\left(\left(\frac{7}{9} - \frac{2}{9}\right) \times \frac{5}{8}\right) \div \left(\frac{4}{9} + \frac{3}{4}\right) \div \frac{1}{3}$$

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$$\begin{aligned} & \left(\frac{1}{5} \div \left(\frac{7}{9} - \frac{1}{6} \right) \right) \times \left(\frac{5}{9} + \frac{4}{9} + \frac{5}{6} \right) \\ &= \left(\frac{1}{5} \div \frac{11}{18} \right) \times \left(\frac{5}{9} + \frac{4}{9} + \frac{5}{6} \right) \\ &= \frac{18}{55} \times \left(\frac{5}{9} + \frac{4}{9} + \frac{5}{6} \right) \\ &= \frac{18}{55} \times \left(1 + \frac{5}{6} \right) \\ &= \frac{18}{55} \times \frac{11}{6} \\ &= \frac{3}{5} \end{aligned}$$

$$\begin{aligned} & \left(\frac{4}{9} + \frac{5}{6} \right) \times \left(\frac{4}{5} - \frac{1}{8} \right) \div \left(\frac{2}{5} + \frac{3}{8} \right) \\ &= \frac{23}{18} \times \left(\frac{4}{5} - \frac{1}{8} \right) \div \left(\frac{2}{5} + \frac{3}{8} \right) \\ &= \frac{23}{18} \times \frac{27}{40} \div \left(\frac{2}{5} + \frac{3}{8} \right) \\ &= \frac{23}{18} \times \frac{27}{40} \div \frac{31}{40} \\ &= \frac{69}{80} \div \frac{31}{40} \\ &= \frac{69}{62} \\ &= 1\frac{7}{62} \end{aligned}$$

$$\begin{aligned} & \frac{2}{5} + \frac{2}{3} - \frac{1}{8} \div \left(\left(\frac{1}{3} \times \frac{1}{2} \right) \div \frac{4}{9} \right) \\ &= \frac{2}{5} + \frac{2}{3} - \frac{1}{8} \div \left(\frac{1}{6} \div \frac{4}{9} \right) \\ &= \frac{2}{5} + \frac{2}{3} - \frac{1}{8} \div \frac{3}{8} \\ &= \frac{2}{5} + \frac{2}{3} - \frac{1}{3} \\ &= \frac{16}{15} - \frac{1}{3} \\ &= \frac{11}{15} \end{aligned}$$

$$\begin{aligned} & \left(\left(\frac{7}{9} - \frac{2}{9} \right) \times \frac{5}{8} \right) \div \left(\frac{4}{9} + \frac{3}{4} \right) \div \frac{1}{3} \\ &= \left(\frac{5}{9} \times \frac{5}{8} \right) \div \left(\frac{4}{9} + \frac{3}{4} \right) \div \frac{1}{3} \\ &= \frac{25}{72} \div \left(\frac{4}{9} + \frac{3}{4} \right) \div \frac{1}{3} \\ &= \frac{25}{72} \div \frac{43}{36} \div \frac{1}{3} \\ &= \frac{25}{86} \div \frac{1}{3} \\ &= \frac{75}{86} \end{aligned}$$