

Order of Operations with Fractions (A)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

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$$\begin{aligned} & \left(-\frac{1}{2}\right)^3 \times \left(\frac{-2}{3} \div \frac{-5}{6} - \frac{1}{2}\right) \\ &= \left(-\frac{1}{2}\right)^3 \times \left(\frac{4}{5} - \frac{1}{2}\right) \\ &= \frac{\left(-\frac{1}{2}\right)^3}{1} \times \frac{3}{10} \\ &= \frac{\left(-\frac{1}{8}\right) \times 3}{10} \\ &= -\frac{3}{80} \end{aligned}$$

$$\begin{aligned} & \left(\frac{2}{3}\right)^2 \times \left(\frac{5}{6} \div \frac{2}{5} - \frac{1}{4}\right) \\ &= \left(\frac{2}{3}\right)^2 \times \left(\frac{25}{12} - \frac{1}{4}\right) \\ &= \frac{\left(\frac{2}{3}\right)^2}{1} \times \frac{11}{6} \\ &= \frac{4}{9} \times \frac{11}{6} \\ &= \frac{22}{27} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{3}{5}\right) \times \frac{1}{2}\right) \div \left(\left(-\frac{1}{8}\right) + \frac{3}{5}\right) \\ &= \left(\frac{-3}{5} \times \frac{1}{4}\right) \div \left(\left(-\frac{1}{8}\right) + \frac{3}{5}\right) \\ &= \left(-\frac{3}{20}\right) \div \left(\frac{-1}{8} + \frac{3}{5}\right) \\ &= \frac{\left(-\frac{3}{20}\right) \div 19}{40} \\ &= -\frac{6}{19} \end{aligned}$$

$$\begin{aligned} & \left(\frac{1}{5}\right)^2 - \frac{2}{5} + \frac{1}{5} \times \left(-\frac{7}{8}\right) \\ &= \left(\frac{1}{25} - \frac{2}{5} + \frac{1}{5}\right) \times \left(-\frac{7}{8}\right) \\ &= \left(\frac{-9}{25} + \frac{1}{5}\right) \times \left(-\frac{7}{8}\right) \\ &= \frac{\left(-\frac{4}{25}\right) \times \left(-\frac{7}{8}\right)}{50} \\ &= \frac{7}{50} \end{aligned}$$