

Order of Operations with Fractions (G)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

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$$\begin{aligned} & \left(\left(-\frac{2}{3} \right) + \frac{7}{8} \right) \div \left(\left(-\frac{5}{8} \right)^2 \times \left(-\frac{2}{5} \right) \right) \\ &= \frac{5}{24} \div \left(\left(-\frac{5}{8} \right)^2 \times \left(-\frac{2}{5} \right) \right) \\ &= \frac{5}{24} \div \left(\frac{25}{64} \times \left(-\frac{2}{5} \right) \right) \\ &= \frac{5}{24} \div \left(-\frac{5}{32} \right) \\ &= -\frac{4}{3} \\ &= -1\frac{1}{3} \end{aligned}$$

$$\begin{aligned} & \frac{7}{9} \times \left(\left(-\frac{7}{8} \right) - \frac{1}{9} \div \left(\frac{2}{3} \right)^3 \right) \\ &= \frac{7}{9} \times \left(\left(-\frac{7}{8} \right) - \frac{1}{9} \div \frac{8}{27} \right) \\ &= \frac{7}{9} \times \left(\left(-\frac{7}{8} \right) - \frac{3}{8} \right) \\ &= \frac{7}{9} \times \left(-\frac{5}{4} \right) \\ &= -\frac{35}{36} \end{aligned}$$

$$\begin{aligned} & \left(\frac{1}{2} \right)^2 \div \left(\frac{2}{5} - \frac{5}{8} + \frac{3}{5} \right) \\ &= \left(\frac{1}{2} \right)^2 \div \left(\left(-\frac{9}{40} \right) + \frac{3}{5} \right) \\ &= \left(\frac{1}{2} \right)^2 \div \frac{3}{8} \\ &= \frac{1}{4} \div \frac{3}{8} \\ &= \frac{2}{3} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{1}{2} \right)^3 - \frac{8}{9} \times \left(-\frac{3}{8} \right) \right) \div \frac{2}{5} \\ &= \left(\left(-\frac{1}{8} \right) - \frac{8}{9} \times \left(-\frac{3}{8} \right) \right) \div \frac{2}{5} \\ &= \left(\left(-\frac{1}{8} \right) - \left(-\frac{1}{3} \right) \right) \div \frac{2}{5} \\ &= \frac{5}{24} \div \frac{2}{5} \\ &= \frac{25}{48} \end{aligned}$$