

Order of Operations with Fractions (J)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

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$$\begin{aligned} & \left(\frac{2}{3} - \left(-\frac{4}{5} \right) \right) \times \left(\frac{5}{8} \div \frac{1}{4} \right)^2 \\ &= \frac{22}{15} \times \left(\frac{5}{8} \div \frac{1}{4} \right)^2 \\ &= \frac{22}{15} \times \left(\frac{5}{2} \right)^2 \\ &= \frac{22}{15} \times \frac{25}{4} \\ &= \frac{55}{6} \\ &= 9\frac{1}{6} \end{aligned}$$

$$\begin{aligned} & \left(\frac{7}{8} \div \left(-\frac{1}{2} \right) - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{1}{3} \right)^3 \\ &= \left(\left(-\frac{7}{4} \right) - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{1}{3} \right)^3 \\ &= \left(-\frac{3}{2} \right) \times \left(-\frac{1}{3} \right)^3 \\ &= \left(-\frac{3}{2} \right) \times \left(-\frac{1}{27} \right) \\ &= \frac{1}{18} \end{aligned}$$

$$\begin{aligned} & \frac{5}{6} - \left(\frac{1}{2} \right)^2 \times \left(\left(-\frac{3}{8} \right) \div \left(-\frac{1}{9} \right) \right) \\ &= \frac{5}{6} - \left(\frac{1}{2} \right)^2 \times \frac{27}{8} \\ &= \frac{5}{6} - \frac{1}{4} \times \frac{27}{8} \\ &= \frac{5}{6} - \frac{27}{32} \\ &= -\frac{1}{96} \end{aligned}$$

$$\begin{aligned} & \left(\frac{2}{3} \right)^2 \div \left(\frac{1}{3} \times \left(\frac{1}{4} - \left(-\frac{1}{6} \right) \right) \right) \\ &= \left(\frac{2}{3} \right)^2 \div \left(\frac{1}{3} \times \frac{5}{12} \right) \\ &= \left(\frac{2}{3} \right)^2 \div \frac{5}{36} \\ &= \frac{4}{9} \div \frac{5}{36} \\ &= \frac{16}{5} \\ &= 3\frac{1}{5} \end{aligned}$$