

Order of Operations with Fractions (F)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

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$$\begin{aligned} & \left(\left(\frac{1}{2} \right)^3 - \left(-\frac{7}{9} \right) \right) \times \left(\frac{8}{9} \div \left(-\frac{4}{9} \right) \right) \\ &= \left(\frac{1}{8} - \left(-\frac{7}{9} \right) \right) \times \left(\frac{8}{9} \div \left(-\frac{4}{9} \right) \right) \\ &= \frac{65}{72} \times \left(\frac{8}{9} \div \left(-\frac{4}{9} \right) \right) \\ &= \frac{65}{72} \times (-2) \\ &= -\frac{65}{36} \\ &= -1\frac{29}{36} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{1}{2} \right)^2 - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{5}{8} \right) + \left(-\frac{2}{3} \right) \\ &= \left(\frac{1}{4} - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{5}{8} \right) + \left(-\frac{2}{3} \right) \\ &= \frac{1}{2} \times \left(-\frac{5}{8} \right) + \left(-\frac{2}{3} \right) \\ &= \left(-\frac{5}{16} \right) + \left(-\frac{2}{3} \right) \\ &= -\frac{47}{48} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{2}{5} \right) - \left(-\frac{4}{9} \right) + \frac{3}{5} \right) \div \left(\frac{2}{3} \right)^2 \\ &= \left(\frac{2}{45} + \frac{3}{5} \right) \div \left(\frac{2}{3} \right)^2 \\ &= \frac{29}{45} \div \left(\frac{2}{3} \right)^2 \\ &= \frac{29}{45} \div \frac{4}{9} \\ &= \frac{29}{20} \\ &= 1\frac{9}{20} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{1}{5} \right) - \left(-\frac{1}{2} \right)^3 \right) \times \left(\frac{1}{3} + \frac{1}{5} \right) \\ &= \left(\left(-\frac{1}{5} \right) - \left(-\frac{1}{8} \right) \right) \times \left(\frac{1}{3} + \frac{1}{5} \right) \\ &= \left(-\frac{3}{40} \right) \times \left(\frac{1}{3} + \frac{1}{5} \right) \\ &= \left(-\frac{3}{40} \right) \times \frac{8}{15} \\ &= -\frac{1}{25} \end{aligned}$$