

Order of Operations with Fractions (F)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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$$\begin{aligned}& \left(-\frac{2}{3}\right) \div \left(-\frac{7}{9}\right)^2 \times \left(\frac{4}{9} - \frac{5}{9} + \left(-\frac{1}{2}\right)\right) \\&= \left(-\frac{2}{3}\right) \div \left(-\frac{7}{9}\right)^2 \times \left(\frac{-1}{9} + \frac{-1}{2}\right) \\&= \left(-\frac{2}{3}\right) \div \frac{7^2}{9^2} \times \left(-\frac{11}{18}\right) \\&= \frac{-2}{3} \div \frac{49}{81} \times \left(-\frac{11}{18}\right) \\&= \frac{-54}{49} \times \left(-\frac{11}{18}\right) \\&= \frac{33}{49}\end{aligned}$$

$$\begin{aligned}& \left(\frac{1}{4} - \left(-\frac{5}{6}\right) + \frac{5^2}{6^2} \div \frac{1}{2}\right) \times \left(-\frac{4}{9}\right) \\&= \left(\frac{1}{4} - \left(-\frac{5}{6}\right) + \frac{25}{36} \div \frac{1}{2}\right) \times \left(-\frac{4}{9}\right) \\&= \left(\frac{1}{4} - \left(-\frac{5}{6}\right) + \frac{25}{18}\right) \times \left(-\frac{4}{9}\right) \\&= \left(\frac{13}{12} + \frac{25}{18}\right) \times \left(-\frac{4}{9}\right) \\&= \frac{89}{36} \times \left(-\frac{4}{9}\right) \\&= -\frac{89}{81} \\&= -1\frac{8}{81}\end{aligned}$$