

Order of Operations with Fractions (I)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

$$\left(-\frac{4}{9}\right) \div \left(\left(-\frac{1}{3}\right) + \left(-\frac{2}{9}\right)^2\right) \times \left(-\frac{5}{8}\right) - \left(-\frac{1}{6}\right)$$

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$$\begin{aligned}& \left(\frac{1}{6} \div \left(\frac{3}{5} \right)^2 + \left(-\frac{5}{6} \right) - \frac{8}{9} \right) \times \left(-\frac{1}{2} \right) \\&= \left(\frac{1}{6} \div \frac{9}{25} + \left(-\frac{5}{6} \right) - \frac{8}{9} \right) \times \left(-\frac{1}{2} \right) \\&= \left(\frac{25}{54} + \left(-\frac{5}{6} \right) - \frac{8}{9} \right) \times \left(-\frac{1}{2} \right) \\&= \left(\left(-\frac{10}{27} \right) - \frac{8}{9} \right) \times \left(-\frac{1}{2} \right) \\&= \left(-\frac{34}{27} \right) \times \left(-\frac{1}{2} \right) \\&= \frac{17}{27}\end{aligned}$$

$$\begin{aligned}& \left(-\frac{4}{9} \right) \div \left(\left(-\frac{1}{3} \right) + \left(-\frac{2}{9} \right)^2 \right) \times \left(-\frac{5}{8} \right) - \left(-\frac{1}{6} \right) \\&= \left(-\frac{4}{9} \right) \div \left(\left(-\frac{1}{3} \right) + \frac{4}{81} \right) \times \left(-\frac{5}{8} \right) - \left(-\frac{1}{6} \right) \\&= \left(-\frac{4}{9} \right) \div \left(-\frac{23}{81} \right) \times \left(-\frac{5}{8} \right) - \left(-\frac{1}{6} \right) \\&= \frac{36}{23} \times \left(-\frac{5}{8} \right) - \left(-\frac{1}{6} \right) \\&= \left(-\frac{45}{46} \right) - \left(-\frac{1}{6} \right) \\&= -\frac{56}{69}\end{aligned}$$