

Order of Operations with Fractions (H)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

$$\left(\left(-\frac{2}{5}\right) \div \left(\frac{3}{5}\right)^2 \times \left(\frac{4}{9} + \left(-\frac{2}{3}\right) - \frac{7}{9}\right)\right) \div \frac{3}{8}$$

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$$\begin{aligned} & \left(\frac{4}{5} + \left(\frac{1}{5} \right)^2 \div \left(-\frac{2}{5} \right) - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{2}{3} \right)^2 \\ &= \left(\frac{4}{5} + \frac{1}{25} \div \left(-\frac{2}{5} \right) - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{2}{3} \right)^2 \\ &= \left(\frac{4}{5} + \left(-\frac{1}{10} \right) - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{2}{3} \right)^2 \\ &= \left(\frac{7}{10} - \left(-\frac{1}{4} \right) \right) \times \left(-\frac{2}{3} \right)^2 \\ &= \frac{19}{20} \times \left(-\frac{2}{3} \right)^2 \\ &= \frac{19}{20} \times \frac{4}{9} \\ &= \frac{19}{45} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{2}{5} \right) \div \left(\frac{3}{5} \right)^2 \times \left(\frac{4}{9} + \left(-\frac{2}{3} \right) - \frac{7}{9} \right) \right) \div \frac{3}{8} \\ &= \left(\left(-\frac{2}{5} \right) \div \left(\frac{3}{5} \right)^2 \times \left(\left(-\frac{2}{9} \right) - \frac{7}{9} \right) \right) \div \frac{3}{8} \\ &= \left(\left(-\frac{2}{5} \right) \div \left(\frac{3}{5} \right)^2 \times (-1) \right) \div \frac{3}{8} \\ &= \left(\left(-\frac{2}{5} \right) \div \frac{9}{25} \times (-1) \right) \div \frac{3}{8} \\ &= \left(\left(-\frac{10}{9} \right) \times (-1) \right) \div \frac{3}{8} \\ &= \frac{10}{9} \div \frac{3}{8} \\ &= \frac{80}{27} \\ &= 2\frac{26}{27} \end{aligned}$$