

## Order of Operations with Fractions (C)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Simplify each expression using the correct order of operations.

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

$$\left( \frac{3}{4} - \frac{7}{8} \times \frac{4}{5} \right) \div \left( \frac{1}{2} \right)^2 + \frac{8}{9}$$

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

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

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$$\begin{aligned} & \frac{2}{3} \times \left( \frac{3}{4} \div \frac{1}{3} + \frac{1}{8} - \frac{7}{8} \right)^2 \\ &= \frac{2}{3} \times \left( \frac{9}{4} + \frac{1}{8} - \frac{7}{8} \right)^2 \\ &= \frac{2}{3} \times \left( \frac{19}{8} - \frac{7}{8} \right)^2 \\ &= \frac{2}{3} \times \left( \frac{3}{2} \right)^2 \\ &= \frac{2}{3} \times \frac{9}{4} \\ &= \frac{3}{2} \\ &= 1\frac{1}{2} \end{aligned}$$

$$\begin{aligned} & \left( \frac{3}{4} - \frac{7}{8} \times \frac{4}{5} \right) \div \left( \frac{1}{2} \right)^2 + \frac{8}{9} \\ &= \left( \frac{3}{4} - \frac{7}{10} \right) \div \left( \frac{1}{2} \right)^2 + \frac{8}{9} \\ &= \frac{1}{20} \div \left( \frac{1}{2} \right)^2 + \frac{8}{9} \\ &= \frac{1}{20} \div \frac{1}{4} + \frac{8}{9} \\ &= \frac{1}{5} + \frac{8}{9} \\ &= \frac{49}{45} \\ &= 1\frac{4}{45} \end{aligned}$$

$$\begin{aligned} & \left( \frac{1}{3} + \frac{2}{5} \times \frac{4}{5} \right) \div \frac{1}{2} - \left( \frac{3}{5} \right)^2 \\ &= \left( \frac{1}{3} + \frac{8}{25} \right) \div \frac{1}{2} - \left( \frac{3}{5} \right)^2 \\ &= \frac{49}{75} \div \frac{1}{2} - \left( \frac{3}{5} \right)^2 \\ &= \frac{49}{75} \div \frac{1}{2} - \frac{9}{25} \\ &= \frac{98}{75} - \frac{9}{25} \\ &= \frac{71}{75} \end{aligned}$$

$$\begin{aligned} & \frac{2}{5} \div \left( \frac{2}{3} \right)^2 \times \left( \frac{7}{9} + \frac{1}{9} - \frac{3}{4} \right) \\ &= \frac{2}{5} \div \left( \frac{2}{3} \right)^2 \times \left( \frac{8}{9} - \frac{3}{4} \right) \\ &= \frac{2}{5} \div \left( \frac{2}{3} \right)^2 \times \frac{5}{36} \\ &= \frac{2}{5} \div \frac{4}{9} \times \frac{5}{36} \\ &= \frac{9}{10} \times \frac{5}{36} \\ &= \frac{1}{8} \end{aligned}$$