

## Order of Operations with Fractions (A)

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

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

Simplify each expression using the correct order of operations.

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

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

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

$$\frac{7}{8} \times \frac{5}{9} \div \left(\frac{4}{9} - \left(\frac{1}{6}\right)^2 + \frac{2}{3}\right)$$

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$$\begin{aligned} & \left(\frac{1}{2}\right)^3 \times \left(\frac{1}{3} \div \left(\frac{5}{9} + \frac{8}{9} - \frac{3}{4}\right)\right) \\ &= \left(\frac{1}{2}\right)^3 \times \left(\frac{1}{3} \div \left(\frac{13}{9} - \frac{3}{4}\right)\right) \\ &= \left(\frac{1}{2}\right)^3 \times \left(\frac{1}{3} \div \frac{25}{36}\right) \\ &= \frac{\left(\frac{1}{2}\right)^3}{1} \times \frac{12}{25} \\ &= \frac{1}{8} \times \frac{12}{25} \\ &= \frac{3}{50} \end{aligned}$$

$$\begin{aligned} & \left(\left(\frac{7}{9} + \frac{1}{3}\right) \div \left(\frac{5}{9}\right)^2\right) \times \frac{1}{4} - \frac{1}{5} \\ &= \left(\frac{10}{9} \div \left(\frac{5}{9}\right)^2\right) \times \frac{1}{4} - \frac{1}{5} \\ &= \left(\frac{10}{9} \div \frac{25}{81}\right) \times \frac{1}{4} - \frac{1}{5} \\ &= \frac{18}{5} \times \frac{1}{4} - \frac{1}{5} \\ &= \frac{9}{10} - \frac{1}{5} \\ &= \frac{7}{10} \end{aligned}$$

$$\begin{aligned} & \frac{5}{8} - \frac{1}{4} + \frac{3}{8} \times \left(\frac{4}{5} \div \left(\frac{2}{5}\right)^2\right) \\ &= \frac{5}{8} - \frac{1}{4} + \frac{3}{8} \times \left(\frac{4}{5} \div \frac{4}{25}\right) \\ &= \frac{5}{8} - \frac{1}{4} + \frac{3}{8} \times 5 \\ &= \frac{5}{8} - \frac{1}{4} + \frac{15}{8} \\ &= \frac{3}{8} + \frac{15}{8} \\ &= \frac{9}{4} \\ &= 2\frac{1}{4} \end{aligned}$$

$$\begin{aligned} & \frac{7}{8} \times \frac{5}{9} \div \left(\frac{4}{9} - \left(\frac{1}{6}\right)^2 + \frac{2}{3}\right) \\ &= \frac{7}{8} \times \frac{5}{9} \div \left(\frac{4}{9} - \frac{1}{36} + \frac{2}{3}\right) \\ &= \frac{7}{8} \times \frac{5}{9} \div \left(\frac{5}{12} + \frac{2}{3}\right) \\ &= \frac{7}{8} \times \frac{5}{9} \div \frac{13}{12} \\ &= \frac{35}{72} \div \frac{13}{12} \\ &= \frac{35}{78} \end{aligned}$$