

## Order of Operations with Fractions (D)

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

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

Simplify each expression using the correct order of operations.

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

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

$$\frac{8}{9} \times \left( \frac{2}{9} + \left( \frac{1}{2} \right)^2 \right)$$

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

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

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

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

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

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

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Simplify each expression using the correct order of operations.

$$\begin{aligned} & \frac{4}{9} \div \left( \frac{5}{6} + \frac{1}{6} \right)^2 \\ &= \frac{4}{9} \div \underline{1^2} \\ &= \frac{4}{9} \div 1 \\ &= \underline{\frac{4}{9}} \end{aligned}$$

$$\begin{aligned} & \frac{2}{9} \div \left( \frac{1}{2} \right)^3 - \frac{2}{5} \\ &= \frac{2}{9} \div \underline{\frac{1}{8}} - \frac{2}{5} \\ &= \frac{16}{9} - \frac{2}{5} \\ &= \frac{62}{45} \\ &= 1 \frac{17}{45} \end{aligned}$$

$$\begin{aligned} & \frac{8}{9} \times \left( \frac{2}{9} + \left( \frac{1}{2} \right)^2 \right) \\ &= \frac{8}{9} \times \left( \frac{2}{9} + \frac{1}{4} \right) \\ &= \frac{8}{9} \times \frac{17}{36} \\ &= \frac{34}{81} \end{aligned}$$

$$\begin{aligned} & \left( \frac{5}{8} \right)^2 + \frac{1}{6} \times \frac{3}{8} \\ &= \frac{25}{64} + \frac{1}{6} \times \frac{3}{8} \\ &= \frac{25}{64} + \frac{1}{16} \\ &= \frac{29}{64} \end{aligned}$$

$$\begin{aligned} & \frac{1}{4} \div \left( \left( \frac{7}{8} \right)^2 - \frac{1}{2} \right) \\ &= \frac{1}{4} \div \left( \frac{49}{64} - \frac{1}{2} \right) \\ &= \frac{1}{4} \div \frac{17}{64} \\ &= \frac{16}{17} \end{aligned}$$

$$\begin{aligned} & \left( \frac{5}{6} - \left( \frac{1}{2} \right)^2 \right) \div \frac{3}{4} \\ &= \left( \frac{5}{6} - \frac{1}{4} \right) \div \frac{3}{4} \\ &= \frac{7}{12} \div \frac{3}{4} \\ &= \frac{7}{9} \end{aligned}$$

$$\begin{aligned} & \left( \frac{1}{2} \right)^3 \times \left( \frac{1}{9} + \frac{5}{9} \right) \\ &= \left( \frac{1}{2} \right)^3 \times \frac{2}{3} \\ &= \frac{1}{8} \times \frac{2}{3} \\ &= \frac{1}{12} \end{aligned}$$

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

$$\begin{aligned} & \frac{4}{9} + \frac{4}{5} \div \left( \frac{3}{5} \right)^2 \\ &= \frac{4}{9} + \frac{4}{5} \div \frac{9}{25} \\ &= \frac{4}{9} + \frac{20}{9} \\ &= \frac{8}{3} \\ &= 2 \frac{2}{3} \end{aligned}$$