

Order of Operations with Fractions (B)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

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

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

$$\left(\left(\frac{1}{4}\right)^2 + \frac{1}{6}\right) \div \frac{1}{8}$$

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

$$\frac{1}{6} \div \left(\frac{7}{9} + \left(\frac{1}{3}\right)^3\right)$$

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$$\begin{aligned} & \left(\frac{1}{4} \right)^2 + \frac{5}{6} \times \frac{3}{4} \\ &= \left(\frac{1}{16} + \frac{5}{6} \right) \times \frac{3}{4} \\ &= \frac{43}{48} \times \frac{3}{4} \\ &= \frac{43}{64} \end{aligned}$$

$$\begin{aligned} & \left(\frac{3}{5} - \frac{1}{4} \right) \div \left(\frac{1}{6} \right)^2 \\ &= \frac{7}{20} \div \left(\frac{1}{6} \right)^2 \\ &= \frac{7}{20} \div \frac{1}{36} \\ &= \frac{63}{5} \\ &= 12\frac{3}{5} \end{aligned}$$

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

$$\begin{aligned} & \frac{5}{6} - \left(\frac{1}{3} \right)^2 \div \frac{5}{8} \\ &= \frac{5}{6} - \frac{1}{9} \div \frac{5}{8} \\ &= \frac{5}{6} - \frac{8}{45} \\ &= \frac{59}{90} \end{aligned}$$

$$\begin{aligned} & \frac{3}{8} \times \left(\frac{2}{3} + \frac{5}{6} \right)^3 \\ &= \frac{3}{8} \times \left(\frac{3}{2} \right)^3 \\ &= \frac{3}{8} \times \frac{27}{8} \\ &= \frac{81}{64} \\ &= 1\frac{17}{64} \end{aligned}$$

$$\begin{aligned} & \frac{4}{5} - \frac{1}{8} \div \left(\frac{5}{8} \right)^2 \\ &= \frac{4}{5} - \frac{1}{8} \div \frac{25}{64} \\ &= \frac{4}{5} - \frac{8}{25} \\ &= \frac{12}{25} \end{aligned}$$

$$\begin{aligned} & \left(\left(\frac{1}{4} \right)^2 + \frac{1}{6} \right) \div \frac{1}{8} \\ &= \left(\frac{1}{16} + \frac{1}{6} \right) \div \frac{1}{8} \\ &= \frac{11}{48} \div \frac{1}{8} \\ &= \frac{11}{6} \\ &= 1\frac{5}{6} \end{aligned}$$

$$\begin{aligned} & \left(\frac{5}{6} \right)^2 \times \left(\frac{1}{4} + \frac{7}{8} \right) \\ &= \left(\frac{5}{6} \right)^2 \times \frac{9}{8} \\ &= \frac{25}{36} \times \frac{9}{8} \\ &= \frac{25}{32} \end{aligned}$$

$$\begin{aligned} & \frac{1}{6} \div \left(\frac{7}{9} + \left(\frac{1}{3} \right)^3 \right) \\ &= \frac{1}{6} \div \left(\frac{7}{9} + \frac{1}{27} \right) \\ &= \frac{1}{6} \div \frac{22}{27} \\ &= \frac{9}{44} \end{aligned}$$