

Order of Operations with Fractions (I)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

Order of Operations with Fractions (I)

Name: _____

Date: _____

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left(\left(\frac{5}{6} - \frac{2}{9} \right) \times \frac{1}{3} \right) \div \left(\frac{2}{5} + \frac{1}{2} - \frac{4}{5} \right) \times \frac{3}{8} \\ &= \left(\frac{11}{18} \times \frac{1}{3} \right) \div \left(\frac{2}{5} + \frac{1}{2} - \frac{4}{5} \right) \times \frac{3}{8} \\ &= \frac{11}{54} \div \left(\frac{2}{5} + \frac{1}{2} - \frac{4}{5} \right) \times \frac{3}{8} \\ &= \frac{11}{54} \div \left(\frac{9}{10} - \frac{4}{5} \right) \times \frac{3}{8} \\ &= \frac{11}{54} \div \frac{1}{10} \times \frac{3}{8} \\ &= \frac{55}{27} \times \frac{3}{8} \\ &= \frac{55}{72} \end{aligned}$$

$$\begin{aligned} & \left(\frac{3}{4} \div \frac{2}{9} \right) \times \left(\frac{1}{8} + \frac{5}{8} - \frac{1}{4} - \frac{1}{2} + \frac{8}{9} \right) \\ &= \frac{27}{8} \times \left(\frac{1}{8} + \frac{5}{8} - \frac{1}{4} - \frac{1}{2} + \frac{8}{9} \right) \\ &= \frac{27}{8} \times \left(\frac{3}{4} - \frac{1}{4} - \frac{1}{2} + \frac{8}{9} \right) \\ &= \frac{27}{8} \times \left(\frac{1}{2} - \frac{1}{2} + \frac{8}{9} \right) \\ &= \frac{27}{8} \times \left(0 + \frac{8}{9} \right) \\ &= \frac{27}{8} \times \frac{8}{9} \\ &= 3 \end{aligned}$$

$$\begin{aligned} & \left(\frac{7}{8} - \frac{1}{9} \right) \times \left(\frac{1}{3} + \frac{1}{5} \right) \div \frac{3}{4} + \frac{4}{9} - \frac{5}{9} \\ &= \frac{55}{72} \times \left(\frac{1}{3} + \frac{1}{5} \right) \div \frac{3}{4} + \frac{4}{9} - \frac{5}{9} \\ &= \frac{55}{72} \times \frac{8}{15} \div \frac{3}{4} + \frac{4}{9} - \frac{5}{9} \\ &= \frac{11}{27} \div \frac{3}{4} + \frac{4}{9} - \frac{5}{9} \\ &= \frac{44}{81} + \frac{4}{9} - \frac{5}{9} \\ &= \frac{80}{81} - \frac{5}{9} \\ &= \frac{35}{81} \end{aligned}$$

$$\begin{aligned} & \left(\frac{5}{6} \times \frac{3}{5} \right) \div \left(\left(\frac{2}{3} - \frac{1}{4} + \frac{5}{9} + \frac{1}{3} \right) \times \frac{1}{2} \right) \\ &= \frac{1}{2} \div \left(\left(\frac{2}{3} - \frac{1}{4} + \frac{5}{9} + \frac{1}{3} \right) \times \frac{1}{2} \right) \\ &= \frac{1}{2} \div \left(\left(\frac{5}{12} + \frac{5}{9} + \frac{1}{3} \right) \times \frac{1}{2} \right) \\ &= \frac{1}{2} \div \left(\left(\frac{35}{36} + \frac{1}{3} \right) \times \frac{1}{2} \right) \\ &= \frac{1}{2} \div \left(\frac{47}{36} \times \frac{1}{2} \right) \\ &= \frac{1}{2} \div \frac{47}{72} \\ &= \frac{36}{47} \end{aligned}$$