

# Order of Operations with Fractions (J)

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

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

Solve each expression using the correct order of operations.

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

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

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

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

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Solve each expression using the correct order of operations.

$$\begin{aligned} & \left( \left( \frac{4}{9} \right)^2 \div \frac{2}{9} \right) \times \left( \frac{5}{8} \right)^2 + \frac{3}{4} - \frac{1}{9} \\ &= \left( \frac{16}{81} \div \frac{2}{9} \right) \times \left( \frac{5}{8} \right)^2 + \frac{3}{4} - \frac{1}{9} \\ &= \frac{8}{9} \times \left( \frac{5}{8} \right)^2 + \frac{3}{4} - \frac{1}{9} \\ &= \frac{8}{9} \times \frac{25}{64} + \frac{3}{4} - \frac{1}{9} \\ &= \frac{25}{72} + \frac{3}{4} - \frac{1}{9} \\ &= \frac{79}{72} - \frac{1}{9} \\ &= \frac{71}{72} \end{aligned}$$

$$\begin{aligned} & \frac{4}{5} \div \frac{8}{9} \times \left( \left( \frac{1}{3} \right)^2 + \frac{2}{5} - \frac{2}{9} \div \frac{1}{2} \right) \\ &= \frac{4}{5} \div \frac{8}{9} \times \left( \frac{1}{9} + \frac{2}{5} - \frac{2}{9} \div \frac{1}{2} \right) \\ &= \frac{4}{5} \div \frac{8}{9} \times \left( \frac{1}{9} + \frac{2}{5} - \frac{4}{9} \right) \\ &= \frac{4}{5} \div \frac{8}{9} \times \left( \frac{23}{45} - \frac{4}{9} \right) \\ &= \frac{4}{5} \div \frac{8}{9} \times \frac{1}{15} \\ &= \frac{9}{10} \times \frac{1}{15} \\ &= \frac{3}{50} \end{aligned}$$

$$\begin{aligned} & \left( \frac{8}{9} - \frac{3}{5} + \frac{2}{5} \times \frac{1}{4} \right) \div \left( \frac{5}{6} \right)^2 - \frac{1}{5} \\ &= \left( \frac{8}{9} - \frac{3}{5} + \frac{1}{10} \right) \div \left( \frac{5}{6} \right)^2 - \frac{1}{5} \\ &= \left( \frac{13}{45} + \frac{1}{10} \right) \div \left( \frac{5}{6} \right)^2 - \frac{1}{5} \\ &= \frac{7}{18} \div \left( \frac{5}{6} \right)^2 - \frac{1}{5} \\ &= \frac{7}{18} \div \frac{25}{36} - \frac{1}{5} \\ &= \frac{14}{25} - \frac{1}{5} \\ &= \frac{9}{25} \end{aligned}$$

$$\begin{aligned} & \left( \frac{2}{3} + \frac{1}{6} - \frac{5}{6} \right) \times \frac{1}{5} \div \left( \frac{4}{5} \right)^2 \times \frac{3}{5} \\ &= \left( \frac{5}{6} - \frac{5}{6} \right) \times \frac{1}{5} \div \left( \frac{4}{5} \right)^2 \times \frac{3}{5} \\ &= 0 \times \frac{1}{5} \div \left( \frac{4}{5} \right)^2 \times \frac{3}{5} \\ &= 0 \times \frac{1}{5} \div \frac{16}{25} \times \frac{3}{5} \\ &= 0 \div \frac{16}{25} \times \frac{3}{5} \\ &= 0 \times \frac{3}{5} \\ &= 0 \end{aligned}$$