Order of Operations with Fractions (J)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

Order of Operations with Fractions (J)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

$$= \left(\frac{16}{81} \div \frac{2}{9}\right) \times \left(\frac{5}{8}\right)^2 + \frac{3}{4} - \frac{1}{9}$$

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

$$= \frac{8}{9} \times \frac{25}{64} + \frac{3}{4} - \frac{1}{9}$$

$$= \frac{25}{72} + \frac{3}{4} - \frac{1}{9}$$

$$= \frac{79}{72} - \frac{1}{9}$$

$$= \frac{71}{72}$$

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

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

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

$$= \frac{4}{5} \div \frac{8}{9} \times \left(\frac{23}{45} - \frac{4}{9}\right)$$

$$= \frac{4}{5} \div \frac{8}{9} \times \frac{1}{15}$$

$$= \frac{9}{10} \times \frac{1}{15}$$

$$= \frac{3}{50}$$

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

$$= \left(\frac{8}{9} - \frac{3}{5} + \frac{1}{10}\right) \div \left(\frac{5}{6}\right)^2 - \frac{1}{5}$$

$$= \left(\frac{13}{45} + \frac{1}{10}\right) \div \left(\frac{5}{6}\right)^2 - \frac{1}{5}$$

$$= \frac{7}{18} \div \left(\frac{5}{6}\right)^2 - \frac{1}{5}$$

$$= \frac{7}{18} \div \frac{25}{36} - \frac{1}{5}$$

$$= \frac{14}{25} - \frac{1}{5}$$

$$= \frac{9}{25}$$

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

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

$$= 0 \times \frac{1}{5} \div \left(\frac{4}{5}\right)^2 \times \frac{3}{5}$$

$$= 0 \times \frac{1}{5} \div \frac{16}{25} \times \frac{3}{5}$$

$$= 0 \div \frac{16}{25} \times \frac{3}{5}$$

$$= 0 \times \frac{3}{5}$$

$$= 0$$