Order of Operations with Fractions (B)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

$\left(\frac{1}{8} \div \frac{3}{8} \right)^2 \times \left(\frac{7}{9} + \frac{8}{9} - \frac{1}{6} \right)^3$

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

Order of Operations with Fractions (B)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

$= \frac{3}{5} \times \left(\frac{4}{9} \div \frac{4}{5} - \frac{2}{5} + \frac{1}{36} \right)$

$= \frac{3}{5} \times \left(\frac{5}{9} - \frac{2}{5} + \frac{1}{36} \right)$

$= \frac{3}{5} \times \left(\frac{7}{45} + \frac{1}{36} \right)$

$= \frac{3}{5} \times \frac{11}{60}$

$= \frac{11}{100}$

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

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

$= \frac{2}{5} \div \frac{5}{6} + \frac{1}{2} - \frac{16}{25} \times \frac{1}{3}$

$= \frac{12}{25} + \frac{1}{2} - \frac{16}{25} \times \frac{1}{3}$

$= \frac{12}{25} + \frac{1}{2} - \frac{16}{75}$

$= \frac{49}{50} - \frac{16}{75}$

$= \frac{23}{30}$

$\left(\frac{1}{8} \div \frac{3}{8} \right)^2 \times \left(\frac{7}{9} + \frac{8}{9} - \frac{1}{6} \right)^3$

$= \left(\frac{1}{3}\right)^2 \times \left(\frac{7}{9} + \frac{8}{9} - \frac{1}{6} \right)^3$

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

$= \left(\frac{1}{3}\right)^2 \times \left(\frac{3}{2}\right)^3$

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

$= \frac{1}{9} \times \frac{27}{8}$

$= \frac{3}{8}$

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

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

$= \left(\frac{20}{81} + \frac{2}{9} \right) \times \frac{1}{2} - \left(\frac{1}{9}\right)^2$

$= \frac{38}{81} \times \frac{1}{2} - \left(\frac{1}{9}\right)^2$

$= \frac{38}{81} \times \frac{1}{2} - \frac{1}{81}$

$= \frac{19}{81} - \frac{1}{81}$

$= \frac{2}{9}$