Order of Operations with Fractions (I)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

$$=\left(\frac{9}{16}+\frac{9}{16}\div\left(-\frac{2}{5}\right)\right)\times\left(-\frac{2}{9}\right)-\left(-\frac{3}{5}\right)$$

$$=\left(\frac{9}{16}+\left(-\frac{45}{32}\right)\right)\times\left(-\frac{2}{9}\right)-\left(-\frac{3}{5}\right)$$

$$=\left(-\frac{27}{32}\right)\times\left(-\frac{2}{9}\right)-\left(-\frac{3}{5}\right)$$

$$=\frac{3}{16}-\left(-\frac{3}{5}\right)$$

$$=\frac{63}{80}$$

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

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

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

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

$$=\left(-\frac{3}{8}\right)\times\left(\frac{1}{3}\right)^3$$

$$=\left(-\frac{3}{8}\right)\times\frac{1}{27}$$

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