

# Order of Operations with Fractions (I)

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

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

Simplify each expression using the correct order of operations.

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

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

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

$$\left( \frac{3}{5} - \left( \frac{1}{3} \right)^2 \right) \times \left( \frac{2}{9} + \frac{7}{9} \right)$$

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Simplify each expression using the correct order of operations.

$$\begin{aligned} & \frac{1}{3} \times \left( \left( \frac{1}{9} \right)^2 \div \left( -\frac{8}{9} \right) + \left( -\frac{3}{8} \right) \right) \\ &= \frac{1}{3} \times \left( \frac{1}{81} \div \left( -\frac{8}{9} \right) + \left( -\frac{3}{8} \right) \right) \\ &= \frac{1}{3} \times \left( \left( -\frac{1}{72} \right) + \left( -\frac{3}{8} \right) \right) \\ &= \frac{1}{3} \times \left( -\frac{7}{18} \right) \\ &= -\frac{7}{54} \end{aligned}$$

$$\begin{aligned} & \left( \frac{3}{5} \right)^2 \div \left( \frac{1}{5} + \left( -\frac{4}{9} \right) \times \frac{2}{5} \right) \\ &= \left( \frac{3}{5} \right)^2 \div \left( \frac{1}{5} + \left( -\frac{8}{45} \right) \right) \\ &= \frac{\left( \frac{3}{5} \right)^2}{\frac{1}{5}} \div \frac{1}{45} \\ &= \frac{9}{25} \div \frac{1}{45} \\ &= \frac{81}{5} \\ &= 16\frac{1}{5} \end{aligned}$$

$$\begin{aligned} & \frac{2}{9} \div \frac{1}{5} \times \left( \left( -\frac{4}{5} \right) - \left( -\frac{1}{5} \right)^2 \right) \\ &= \frac{2}{9} \div \frac{1}{5} \times \left( \left( -\frac{4}{5} \right) - \frac{1}{25} \right) \\ &= \frac{2}{9} \div \frac{1}{5} \times \left( -\frac{21}{25} \right) \\ &= \frac{10}{9} \times \left( -\frac{21}{25} \right) \\ &= -\frac{14}{15} \end{aligned}$$

$$\begin{aligned} & \left( \frac{3}{5} - \left( \frac{1}{3} \right)^2 \right) \times \left( \frac{2}{9} + \frac{7}{9} \right) \\ &= \left( \frac{3}{5} - \frac{1}{9} \right) \times \left( \frac{2}{9} + \frac{7}{9} \right) \\ &= \frac{22}{45} \times \left( \frac{2}{9} + \frac{7}{9} \right) \\ &= \frac{22}{45} \times 1 \\ &= \frac{22}{45} \end{aligned}$$