

## Order of Operations with Fractions (A)

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

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

Simplify each expression using the correct order of operations.

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

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

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

$$\left(\left(-\frac{1}{5}\right)^2 - \frac{2}{5} + \frac{1}{5}\right) \times \left(-\frac{7}{8}\right)$$

# Order of Operations with Fractions (A)

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Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left(-\frac{1}{2}\right)^3 \times \left(\frac{-2}{3} \div \frac{-5}{6} - \frac{1}{2}\right) \\ &= \left(-\frac{1}{2}\right)^3 \times \left(\frac{4}{5} - \frac{1}{2}\right) \\ &= \frac{\left(-\frac{1}{2}\right)^3}{1} \times \frac{3}{10} \\ &= \frac{\left(-\frac{1}{8}\right) \times 3}{10} \\ &= -\frac{3}{80} \end{aligned}$$

$$\begin{aligned} & \left(\frac{2}{3}\right)^2 \times \left(\frac{5}{6} \div \frac{2}{5} - \frac{1}{4}\right) \\ &= \left(\frac{2}{3}\right)^2 \times \left(\frac{25}{12} - \frac{1}{4}\right) \\ &= \frac{\left(\frac{2}{3}\right)^2}{1} \times \frac{11}{6} \\ &= \frac{4}{9} \times \frac{11}{6} \\ &= \frac{22}{27} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{3}{5}\right) \times \frac{\left(\frac{1}{2}\right)^2}{1}\right) \div \left(\left(-\frac{1}{8}\right) + \frac{3}{5}\right) \\ &= \left(\frac{-3}{5} \times \frac{1}{4}\right) \div \left(\left(-\frac{1}{8}\right) + \frac{3}{5}\right) \\ &= \left(-\frac{3}{20}\right) \div \left(\frac{-1}{8} + \frac{3}{5}\right) \\ &= \frac{\left(-\frac{3}{20}\right) \div 19}{40} \\ &= -\frac{6}{19} \end{aligned}$$

$$\begin{aligned} & \left(\frac{\left(-\frac{1}{5}\right)^2}{1} - \frac{2}{5} + \frac{1}{5}\right) \times \left(-\frac{7}{8}\right) \\ &= \left(\frac{1}{25} - \frac{2}{5} + \frac{1}{5}\right) \times \left(-\frac{7}{8}\right) \\ &= \left(\frac{-9}{25} + \frac{1}{5}\right) \times \left(-\frac{7}{8}\right) \\ &= \frac{\left(-\frac{4}{25}\right) \times \left(-\frac{7}{8}\right)}{1} \\ &= \frac{7}{50} \end{aligned}$$

## Order of Operations with Fractions (B)

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

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

Simplify each expression using the correct order of operations.

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

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

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

$$\left( \frac{7}{9} + \left( \frac{1}{6} \right)^2 \div \frac{5}{8} \right) \times \left( -\frac{5}{6} \right)$$

## Order of Operations with Fractions (B)

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

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

Simplify each expression using the correct order of operations.

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

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

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

$$\begin{aligned} & \left( \frac{7}{9} + \left( \frac{1}{6} \right)^2 \div \frac{5}{8} \right) \times \left( -\frac{5}{6} \right) \\ &= \left( \frac{7}{9} + \frac{1}{36} \div \frac{5}{8} \right) \times \left( -\frac{5}{6} \right) \\ &= \left( \frac{7}{9} + \frac{2}{45} \right) \times \left( -\frac{5}{6} \right) \\ &= \frac{37}{45} \times \left( -\frac{5}{6} \right) \\ &= -\frac{37}{54} \end{aligned}$$

## Order of Operations with Fractions (C)

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

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

Simplify each expression using the correct order of operations.

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

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

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

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

# Order of Operations with Fractions (C)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left( \left( \frac{-2}{3} \right) - \frac{3}{8} + \left( -\frac{3}{4} \right) \right) \div \left( \frac{3}{4} \right)^2 \\ & = \left( \left( \frac{-25}{24} \right) + \left( -\frac{3}{4} \right) \right) \div \left( \frac{3}{4} \right)^2 \\ & = \left( -\frac{43}{24} \right) \div \left( \frac{3}{4} \right)^2 \\ & = \left( -\frac{43}{24} \right) \div \frac{9}{16} \\ & = -\frac{86}{27} \\ & = -3\frac{5}{27} \end{aligned}$$

$$\begin{aligned} & \left( \left( \left( \frac{-2}{5} \right) - \frac{4}{5} \right)^2 \times \frac{5}{6} \right) \div \left( -\frac{5}{8} \right) \\ & = \left( \left( \frac{-6}{5} \right)^2 \times \frac{5}{6} \right) \div \left( -\frac{5}{8} \right) \\ & = \left( \frac{36}{25} \times \frac{5}{6} \right) \div \left( -\frac{5}{8} \right) \\ & = \frac{6}{5} \div \left( -\frac{5}{8} \right) \\ & = -\frac{48}{25} \\ & = -1\frac{23}{25} \end{aligned}$$

$$\begin{aligned} & \frac{1}{6} \times \left( \frac{2}{9} \div \left( \frac{2}{3} \right)^2 - \frac{2}{5} \right) \\ & = \frac{1}{6} \times \left( \frac{2}{9} \div \frac{4}{9} - \frac{2}{5} \right) \\ & = \frac{1}{6} \times \left( \frac{1}{2} - \frac{2}{5} \right) \\ & = \frac{1}{6} \times \frac{1}{10} \\ & = \frac{1}{60} \end{aligned}$$

$$\begin{aligned} & \left( \left( \frac{1}{3} \right)^3 + \left( -\frac{2}{9} \right) \right) \times \left( \left( -\frac{7}{8} \right) \div \left( -\frac{1}{3} \right) \right) \\ & = \left( \frac{1}{27} + \left( -\frac{2}{9} \right) \right) \times \left( \left( -\frac{7}{8} \right) \div \left( -\frac{1}{3} \right) \right) \\ & = \left( -\frac{5}{27} \right) \times \left( \left( -\frac{7}{8} \right) \div \left( -\frac{1}{3} \right) \right) \\ & = \left( -\frac{5}{27} \right) \times \frac{21}{8} \\ & = -\frac{35}{72} \end{aligned}$$

## Order of Operations with Fractions (D)

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

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

Simplify each expression using the correct order of operations.

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

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

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

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

# Order of Operations with Fractions (D)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left(-\frac{1}{9}\right) + \left(\frac{1}{3}\right)^3 \div \left(\underline{\underline{\left(-\frac{1}{8}\right) - \left(-\frac{2}{9}\right)}}\right) \\ &= \left(-\frac{1}{9}\right) + \underline{\underline{\left(\frac{1}{3}\right)^3}} \div \frac{7}{72} \\ &= \left(-\frac{1}{9}\right) + \underline{\underline{\frac{1}{27} \div \frac{7}{72}}} \\ &= \underline{\underline{\left(-\frac{1}{9}\right) + \frac{8}{21}}} \\ &= \frac{17}{63} \end{aligned}$$

$$\begin{aligned} & \left(\left(-\frac{5}{9}\right) \times \underline{\underline{\left(-\frac{2}{3}\right)^2}} + \frac{5}{9}\right) \div \left(-\frac{1}{9}\right) \\ &= \left(\underline{\underline{\left(-\frac{5}{9}\right) \times \frac{4}{9}} + \frac{5}{9}}\right) \div \left(-\frac{1}{9}\right) \\ &= \left(\underline{\underline{\left(-\frac{20}{81}\right) + \frac{5}{9}}}\right) \div \left(-\frac{1}{9}\right) \\ &= \underline{\underline{\frac{25}{81} \div \left(-\frac{1}{9}\right)}} \\ &= -\frac{25}{9} \\ &= -2\frac{7}{9} \end{aligned}$$

$$\begin{aligned} & \left(\frac{1}{9}\right)^2 \div \left(\underline{\underline{\left(-\frac{1}{8}\right) + \frac{8}{9} - \frac{2}{3}}}\right) \\ &= \left(\frac{1}{9}\right)^2 \div \left(\underline{\underline{\frac{55}{72} - \frac{2}{3}}}\right) \\ &= \underline{\underline{\left(\frac{1}{9}\right)^2}} \div \frac{7}{72} \\ &= \underline{\underline{\frac{1}{81} \div \frac{7}{72}}} \\ &= \frac{8}{63} \end{aligned}$$

$$\begin{aligned} & \left(\frac{1}{3} \times \underline{\underline{\left(-\frac{1}{8}\right)}}\right) \div \left(-\frac{1}{2}\right)^2 - \left(-\frac{8}{9}\right) \\ &= \left(-\frac{1}{24}\right) \div \underline{\underline{\left(-\frac{1}{2}\right)^2}} - \left(-\frac{8}{9}\right) \\ &= \underline{\underline{\left(-\frac{1}{24}\right) \div \frac{1}{4}}} - \left(-\frac{8}{9}\right) \\ &= \underline{\underline{\left(-\frac{1}{6}\right) - \left(-\frac{8}{9}\right)}} \\ &= \frac{13}{18} \end{aligned}$$



## Order of Operations with Fractions (E)

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

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

Simplify each expression using the correct order of operations.

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

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

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

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

# Order of Operations with Fractions (E)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left( \left( \frac{1}{4} \right)^2 \times \frac{3}{4} \right) \div \left( -\frac{1}{4} \right) - \left( -\frac{2}{5} \right) \\ & = \left( \frac{1}{16} \times \frac{3}{4} \right) \div \left( -\frac{1}{4} \right) - \left( -\frac{2}{5} \right) \\ & = \frac{3}{64} \div \left( -\frac{1}{4} \right) - \left( -\frac{2}{5} \right) \\ & = \left( -\frac{3}{16} \right) - \left( -\frac{2}{5} \right) \\ & = \frac{17}{80} \end{aligned}$$

$$\begin{aligned} & \left( -\frac{4}{9} \right) \times \left( \left( \frac{3}{8} \right)^2 + \frac{3}{4} \right) \div \left( -\frac{1}{8} \right) \\ & = \left( -\frac{4}{9} \right) \times \left( \frac{9}{64} + \frac{3}{4} \right) \div \left( -\frac{1}{8} \right) \\ & = \left( -\frac{4}{9} \right) \times \frac{57}{64} \div \left( -\frac{1}{8} \right) \\ & = \left( -\frac{19}{48} \right) \div \left( -\frac{1}{8} \right) \\ & = \frac{19}{6} \\ & = 3\frac{1}{6} \end{aligned}$$

$$\begin{aligned} & \left( -\frac{2}{9} \right) \div \left( \frac{7}{8} + \left( -\frac{2}{3} \right) - \left( \frac{1}{2} \right)^2 \right) \\ & = \left( -\frac{2}{9} \right) \div \left( \frac{7}{8} + \left( -\frac{2}{3} \right) - \frac{1}{4} \right) \\ & = \left( -\frac{2}{9} \right) \div \left( \frac{5}{24} - \frac{1}{4} \right) \\ & = \left( -\frac{2}{9} \right) \div \left( -\frac{1}{24} \right) \\ & = \frac{16}{3} \\ & = 5\frac{1}{3} \end{aligned}$$

$$\begin{aligned} & \left( \left( \frac{3}{8} + \frac{5}{8} \right) \times \frac{1}{8} \right) \div \left( -\frac{2}{5} \right)^2 \\ & = \left( 1 \times \frac{1}{8} \right) \div \left( -\frac{2}{5} \right)^2 \\ & = \frac{1}{8} \div \left( -\frac{2}{5} \right)^2 \\ & = \frac{1}{8} \div \frac{4}{25} \\ & = \frac{25}{32} \end{aligned}$$

# Order of Operations with Fractions (F)

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

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

Simplify each expression using the correct order of operations.

$$\left(\left(\frac{1}{2}\right)^3 - \left(-\frac{7}{9}\right)\right) \times \left(\frac{8}{9} \div \left(-\frac{4}{9}\right)\right)$$

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

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

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

# Order of Operations with Fractions (F)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left( \left( \frac{1}{2} \right)^3 - \left( -\frac{7}{9} \right) \right) \times \left( \frac{8}{9} \div \left( -\frac{4}{9} \right) \right) \\ &= \left( \frac{1}{8} - \left( -\frac{7}{9} \right) \right) \times \left( \frac{8}{9} \div \left( -\frac{4}{9} \right) \right) \\ &= \frac{65}{72} \times \left( \frac{8}{9} \div \left( -\frac{4}{9} \right) \right) \\ &= \frac{65}{72} \times (-2) \\ &= -\frac{65}{36} \\ &= -1\frac{29}{36} \end{aligned}$$

$$\begin{aligned} & \left( \left( -\frac{1}{2} \right)^2 - \left( -\frac{1}{4} \right) \right) \times \left( -\frac{5}{8} \right) + \left( -\frac{2}{3} \right) \\ &= \left( \frac{1}{4} - \left( -\frac{1}{4} \right) \right) \times \left( -\frac{5}{8} \right) + \left( -\frac{2}{3} \right) \\ &= \frac{1}{2} \times \left( -\frac{5}{8} \right) + \left( -\frac{2}{3} \right) \\ &= \left( -\frac{5}{16} \right) + \left( -\frac{2}{3} \right) \\ &= -\frac{47}{48} \end{aligned}$$

$$\begin{aligned} & \left( \left( -\frac{2}{5} \right) - \left( -\frac{4}{9} \right) + \frac{3}{5} \right) \div \left( \frac{2}{3} \right)^2 \\ &= \left( \frac{2}{45} + \frac{3}{5} \right) \div \left( \frac{2}{3} \right)^2 \\ &= \frac{29}{45} \div \left( \frac{2}{3} \right)^2 \\ &= \frac{29}{45} \div \frac{4}{9} \\ &= \frac{29}{20} \\ &= 1\frac{9}{20} \end{aligned}$$

$$\begin{aligned} & \left( \left( -\frac{1}{5} \right) - \left( -\frac{1}{2} \right)^3 \right) \times \left( \frac{1}{3} + \frac{1}{5} \right) \\ &= \left( \left( -\frac{1}{5} \right) - \left( -\frac{1}{8} \right) \right) \times \left( \frac{1}{3} + \frac{1}{5} \right) \\ &= \left( -\frac{3}{40} \right) \times \left( \frac{1}{3} + \frac{1}{5} \right) \\ &= \left( -\frac{3}{40} \right) \times \frac{8}{15} \\ &= -\frac{1}{25} \end{aligned}$$

## Order of Operations with Fractions (G)

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

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

Simplify each expression using the correct order of operations.

$$\left(\left(-\frac{2}{3}\right) + \frac{7}{8}\right) \div \left(\left(-\frac{5}{8}\right)^2 \times \left(-\frac{2}{5}\right)\right)$$

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

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

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

# Order of Operations with Fractions (G)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left( \left( -\frac{2}{3} \right) + \frac{7}{8} \right) \div \left( \left( -\frac{5}{8} \right)^2 \times \left( -\frac{2}{5} \right) \right) \\ &= \frac{5}{24} \div \left( \left( -\frac{5}{8} \right)^2 \times \left( -\frac{2}{5} \right) \right) \\ &= \frac{5}{24} \div \left( \frac{25}{64} \times \left( -\frac{2}{5} \right) \right) \\ &= \frac{5}{24} \div \left( -\frac{5}{32} \right) \\ &= -\frac{4}{3} \\ &= -1\frac{1}{3} \end{aligned}$$

$$\begin{aligned} & \frac{7}{9} \times \left( \left( -\frac{7}{8} \right) - \frac{1}{9} \div \left( \frac{2}{3} \right)^3 \right) \\ &= \frac{7}{9} \times \left( \left( -\frac{7}{8} \right) - \frac{1}{9} \div \frac{8}{27} \right) \\ &= \frac{7}{9} \times \left( \left( -\frac{7}{8} \right) - \frac{3}{8} \right) \\ &= \frac{7}{9} \times \left( -\frac{5}{4} \right) \\ &= -\frac{35}{36} \end{aligned}$$

$$\begin{aligned} & \left( \frac{1}{2} \right)^2 \div \left( \frac{2}{5} - \frac{5}{8} + \frac{3}{5} \right) \\ &= \left( \frac{1}{2} \right)^2 \div \left( \left( -\frac{9}{40} \right) + \frac{3}{5} \right) \\ &= \left( \frac{1}{2} \right)^2 \div \frac{3}{8} \\ &= \frac{1}{4} \div \frac{3}{8} \\ &= \frac{2}{3} \end{aligned}$$

$$\begin{aligned} & \left( \left( -\frac{1}{2} \right)^3 - \frac{8}{9} \times \left( -\frac{3}{8} \right) \right) \div \frac{2}{5} \\ &= \left( \left( -\frac{1}{8} \right) - \frac{8}{9} \times \left( -\frac{3}{8} \right) \right) \div \frac{2}{5} \\ &= \left( \left( -\frac{1}{8} \right) - \left( -\frac{1}{3} \right) \right) \div \frac{2}{5} \\ &= \frac{5}{24} \div \frac{2}{5} \\ &= \frac{25}{48} \end{aligned}$$

# Order of Operations with Fractions (H)

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

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

Simplify each expression using the correct order of operations.

$$\frac{3}{8} \div \left( \left( -\frac{2}{9} \right) - \frac{7}{9} + \left( -\frac{1}{4} \right)^2 \right)$$

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

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

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

# Order of Operations with Fractions (H)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \frac{3}{8} \div \left( \left( -\frac{2}{9} \right) - \frac{7}{9} + \left( -\frac{1}{4} \right)^2 \right) \\ &= \frac{3}{8} \div \left( \left( -\frac{2}{9} \right) - \frac{7}{9} + \frac{1}{16} \right) \\ &= \frac{3}{8} \div \left( -1 + \frac{1}{16} \right) \\ &= \frac{3}{8} \div \left( -\frac{15}{16} \right) \\ &= -\frac{2}{5} \end{aligned}$$

$$\begin{aligned} & \left( \left( -\frac{3}{5} \right) + \left( -\frac{1}{2} \right) \right) \times \left( \left( -\frac{1}{9} \right) - \left( \frac{1}{6} \right)^2 \right) \\ &= \left( -\frac{11}{10} \right) \times \left( \left( -\frac{1}{9} \right) - \left( \frac{1}{6} \right)^2 \right) \\ &= \left( -\frac{11}{10} \right) \times \left( \left( -\frac{1}{9} \right) - \frac{1}{36} \right) \\ &= \left( -\frac{11}{10} \right) \times \left( -\frac{5}{36} \right) \\ &= \frac{11}{72} \end{aligned}$$

$$\begin{aligned} & \left( \frac{3}{5} - \left( -\frac{3}{5} \right)^2 + \left( -\frac{1}{3} \right) \right) \div \left( -\frac{4}{5} \right) \\ &= \left( \frac{3}{5} - \frac{9}{25} + \left( -\frac{1}{3} \right) \right) \div \left( -\frac{4}{5} \right) \\ &= \left( \frac{6}{25} + \left( -\frac{1}{3} \right) \right) \div \left( -\frac{4}{5} \right) \\ &= \left( -\frac{7}{75} \right) \div \left( -\frac{4}{5} \right) \\ &= \frac{7}{60} \end{aligned}$$

$$\begin{aligned} & \left( \frac{1}{3} + \left( \frac{2}{3} \right)^3 - \left( -\frac{5}{9} \right) \right) \div \frac{4}{9} \\ &= \left( \frac{1}{3} + \frac{8}{27} - \left( -\frac{5}{9} \right) \right) \div \frac{4}{9} \\ &= \left( \frac{17}{27} - \left( -\frac{5}{9} \right) \right) \div \frac{4}{9} \\ &= \frac{32}{27} \div \frac{4}{9} \\ &= \frac{8}{3} \\ &= 2\frac{2}{3} \end{aligned}$$



# Order of Operations with Fractions (I)

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

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

Simplify each expression using the correct order of operations.

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

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

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

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

# Order of Operations with Fractions (I)

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

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

Simplify each expression using the correct order of operations.

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

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

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

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

## Order of Operations with Fractions (J)

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

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

Simplify each expression using the correct order of operations.

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

$$\left(\frac{7}{8} \div \left(-\frac{1}{2}\right) - \left(-\frac{1}{4}\right)\right) \times \left(-\frac{1}{3}\right)^3$$

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

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

# Order of Operations with Fractions (J)

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

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

Simplify each expression using the correct order of operations.

$$\begin{aligned} & \left( \frac{2}{3} - \left( -\frac{4}{5} \right) \right) \times \left( \frac{5}{8} \div \frac{1}{4} \right)^2 \\ &= \frac{22}{15} \times \left( \frac{5}{8} \div \frac{1}{4} \right)^2 \\ &= \frac{22}{15} \times \left( \frac{5}{2} \right)^2 \\ &= \frac{22}{15} \times \frac{25}{4} \\ &= \frac{55}{6} \\ &= 9\frac{1}{6} \end{aligned}$$

$$\begin{aligned} & \left( \frac{7}{8} \div \left( -\frac{1}{2} \right) - \left( -\frac{1}{4} \right) \right) \times \left( -\frac{1}{3} \right)^3 \\ &= \left( \left( -\frac{7}{4} \right) - \left( -\frac{1}{4} \right) \right) \times \left( -\frac{1}{3} \right)^3 \\ &= \left( -\frac{3}{2} \right) \times \left( -\frac{1}{3} \right)^3 \\ &= \left( -\frac{3}{2} \right) \times \left( -\frac{1}{27} \right) \\ &= \frac{1}{18} \end{aligned}$$

$$\begin{aligned} & \frac{5}{6} - \left( \frac{1}{2} \right)^2 \times \left( \left( -\frac{3}{8} \right) \div \left( -\frac{1}{9} \right) \right) \\ &= \frac{5}{6} - \left( \frac{1}{2} \right)^2 \times \frac{27}{8} \\ &= \frac{5}{6} - \frac{1}{4} \times \frac{27}{8} \\ &= \frac{5}{6} - \frac{27}{32} \\ &= -\frac{1}{96} \end{aligned}$$

$$\begin{aligned} & \left( \frac{2}{3} \right)^2 \div \left( \frac{1}{3} \times \left( \frac{1}{4} - \left( -\frac{1}{6} \right) \right) \right) \\ &= \left( \frac{2}{3} \right)^2 \div \left( \frac{1}{3} \times \frac{5}{12} \right) \\ &= \left( \frac{2}{3} \right)^2 \div \frac{5}{36} \\ &= \frac{4}{9} \div \frac{5}{36} \\ &= \frac{16}{5} \\ &= 3\frac{1}{5} \end{aligned}$$