Order of Operations with Fractions (A)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$\frac{2}{3} \div \left(\frac{5}{9} \times \left(\frac{4}{5} + \frac{3}{5} - \frac{1}{5}\right) \div \left(\frac{7}{9}\right)^2\right)$

$\frac{3}{5} + \frac{7}{8} - \left(\frac{5}{6}\right)^2 \times \left(\frac{4}{9} \div \left(\frac{2}{3}\right)^3\right)$

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

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

Order of Operations with Fractions (A)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\frac{2}{3} \div \left(\frac{5}{9} \times \left(\underline{\frac{4}{5} + \frac{3}{5}} - \frac{1}{5}\right) \div \left(\frac{7}{9}\right)^2\right)$$
$$= \frac{2}{3} \div \left(\frac{5}{9} \times \left(\underline{\frac{7}{5} - \frac{1}{5}}\right) \div \left(\frac{7}{9}\right)^2\right)$$
$$= \frac{2}{3} \div \left(\frac{5}{9} \times \frac{6}{5} \div \underline{\left(\frac{7}{9}\right)^2}\right)$$
$$= \frac{2}{3} \div \left(\underline{\frac{5}{9} \times \frac{6}{5}} \div \frac{49}{81}\right)$$
$$= \frac{2}{3} \div \left(\underline{\frac{2}{3} \div \frac{49}{81}}\right)$$
$$= \underline{\frac{2}{3} \div \frac{54}{49}}$$
$$= \frac{49}{81}$$

$$\frac{3}{5} + \frac{7}{8} - \left(\frac{5}{6}\right)^2 \times \left(\frac{4}{9} \div \underline{\left(\frac{2}{3}\right)^3}\right)$$
$$= \frac{3}{5} + \frac{7}{8} - \left(\frac{5}{6}\right)^2 \times \left(\underline{\frac{4}{9} \div \frac{8}{27}}\right)$$
$$= \frac{3}{5} + \frac{7}{8} - \underline{\left(\frac{5}{6}\right)^2} \times \frac{3}{2}$$
$$= \frac{3}{5} + \frac{7}{8} - \underline{\frac{25}{36} \times \frac{3}{2}}$$
$$= \underline{\frac{3}{5} + \frac{7}{8}} - \frac{25}{24}$$
$$= \underline{\frac{59}{40} - \frac{25}{24}}$$
$$= \frac{13}{30}$$

$$\frac{8}{9} - \frac{5}{6} + \left(\frac{1}{2}\right)^2 \times \left(\underline{\left(\frac{5}{9}\right)^2} \div \frac{1}{9}\right)$$
$$= \frac{8}{9} - \frac{5}{6} + \left(\frac{1}{2}\right)^2 \times \left(\underline{\frac{25}{81} \div \frac{1}{9}}\right)$$
$$= \frac{8}{9} - \frac{5}{6} + \underline{\left(\frac{1}{2}\right)^2} \times \frac{25}{9}$$
$$= \frac{8}{9} - \frac{5}{6} + \underline{\frac{1}{4} \times \frac{25}{9}}$$
$$= \underline{\frac{8}{9} - \frac{5}{6}} + \frac{25}{36}$$
$$= \underline{\frac{1}{18} + \frac{25}{36}}$$
$$= \frac{3}{4}$$

$$\frac{3}{5} \times \left(\frac{2}{5} - \frac{1}{5} + \frac{4}{5} \div \frac{3}{4} - \underline{\left(\frac{1}{3}\right)^2}\right)$$
$$= \frac{3}{5} \times \left(\frac{2}{5} - \frac{1}{5} + \underline{\frac{4}{5} \div \frac{3}{4}} - \frac{1}{9}\right)$$
$$= \frac{3}{5} \times \left(\underline{\frac{2}{5} - \frac{1}{5}} + \frac{16}{15} - \frac{1}{9}\right)$$
$$= \frac{3}{5} \times \left(\underline{\frac{1}{5} + \frac{16}{15}} - \frac{1}{9}\right)$$
$$= \frac{3}{5} \times \left(\underline{\frac{19}{15} - \frac{1}{9}}\right)$$
$$= \underline{\frac{3}{5} \times \frac{52}{45}}$$
$$= \frac{52}{75}$$

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.

$$\frac{3}{5}\times\left(\left(\frac{2}{3}\right)^2\div\frac{4}{5}-\frac{2}{5}+\left(\frac{1}{6}\right)^2\right)$$
$$=\frac{3}{5}\times\left(\frac{4}{9}\div\frac{4}{5}-\frac{2}{5}+\left(\frac{1}{6}\right)^2\right)$$
$$=\frac{3}{5}\times\left(\frac{4}{9}\div\frac{4}{5}-\frac{2}{5}+\frac{1}{36}\right)$$
$$=\frac{3}{5}\times\left(\frac{5}{9}-\frac{2}{5}+\frac{1}{36}\right)$$
$$=\frac{3}{5}\times\left(\frac{7}{45}+\frac{1}{36}\right)$$
$$=\frac{3}{5}\times\frac{11}{60}$$
$$=\frac{11}{100}$$

$$\frac{2}{5}\div\frac{5}{6}+\frac{1}{2}-\left(\frac{4}{5}\right)^2\times\left(\frac{2}{3}-\frac{1}{3}\right)$$
$$=\frac{2}{5}\div\frac{5}{6}+\frac{1}{2}-\left(\frac{4}{5}\right)^2\times\frac{1}{3}$$
$$=\frac{2}{5}\div\frac{5}{6}+\frac{1}{2}-\frac{16}{25}\times\frac{1}{3}$$
$$=\frac{12}{25}+\frac{1}{2}-\frac{16}{25}\times\frac{1}{3}$$
$$=\frac{12}{25}+\frac{1}{2}-\frac{16}{75}$$
$$=\frac{49}{50}-\frac{16}{75}$$
$$=\frac{23}{30}$$

$$\left(\frac{1}{8}\div\frac{3}{8}\right)^2\times\left(\frac{7}{9}+\frac{8}{9}-\frac{1}{6}\right)^3$$
$$=\left(\frac{1}{3}\right)^2\times\left(\frac{7}{9}+\frac{8}{9}-\frac{1}{6}\right)^3$$
$$=\left(\frac{1}{3}\right)^2\times\left(\frac{5}{3}-\frac{1}{6}\right)^3$$
$$=\left(\frac{1}{3}\right)^2\times\left(\frac{3}{2}\right)^3$$
$$=\frac{1}{9}\times\left(\frac{3}{2}\right)^3$$
$$=\frac{1}{9}\times\frac{27}{8}$$
$$=\frac{3}{8}$$

$$\left(\left(\frac{4}{9}\right)^2\div\frac{4}{5}+\frac{2}{9}\right)\times\frac{1}{2}-\left(\frac{1}{9}\right)^2$$
$$=\left(\frac{16}{81}\div\frac{4}{5}+\frac{2}{9}\right)\times\frac{1}{2}-\left(\frac{1}{9}\right)^2$$
$$=\left(\frac{20}{81}+\frac{2}{9}\right)\times\frac{1}{2}-\left(\frac{1}{9}\right)^2$$
$$=\frac{38}{81}\times\frac{1}{2}-\left(\frac{1}{9}\right)^2$$
$$=\frac{38}{81}\times\frac{1}{2}-\frac{1}{81}$$
$$=\frac{19}{81}-\frac{1}{81}$$
$$=\frac{2}{9}$$

Order of Operations with Fractions (C)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

$\left(\frac{1}{6} + \frac{8}{9} \div \frac{1}{3} - \frac{5}{6}\right)^3 \times \frac{1}{5} \div \frac{7}{9}$

Order of Operations with Fractions (C)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\left(\left(\frac{3}{8}\right)^2 + \frac{7}{8} - \frac{1}{8}\right) \div \frac{1}{4} \times \left(\frac{1}{3}\right)^2$$
$$= \left(\frac{9}{64} + \frac{7}{8} - \frac{1}{8}\right) \div \frac{1}{4} \times \left(\frac{1}{3}\right)^2$$
$$= \left(\frac{65}{64} - \frac{1}{8}\right) \div \frac{1}{4} \times \left(\frac{1}{3}\right)^2$$
$$= \frac{57}{64} \div \frac{1}{4} \times \left(\frac{1}{3}\right)^2$$
$$= \frac{57}{64} \div \frac{1}{4} \times \frac{1}{9}$$
$$= \frac{57}{16} \times \frac{1}{9}$$
$$= \frac{19}{48}$$

$$\left(\left(\frac{1}{3}\right)^2 - \frac{1}{9} + \left(\frac{2}{9}\right)^2\right) \div \left(\frac{1}{2} \times \frac{4}{9}\right)$$
$$= \left(\frac{1}{9} - \frac{1}{9} + \left(\frac{2}{9}\right)^2\right) \div \left(\frac{1}{2} \times \frac{4}{9}\right)$$
$$= \left(\frac{1}{9} - \frac{1}{9} + \frac{4}{81}\right) \div \left(\frac{1}{2} \times \frac{4}{9}\right)$$
$$= \left(0 + \frac{4}{81}\right) \div \left(\frac{1}{2} \times \frac{4}{9}\right)$$
$$= \frac{4}{81} \div \left(\frac{1}{2} \times \frac{4}{9}\right)$$
$$= \frac{4}{81} \div \frac{2}{9}$$
$$= \frac{2}{9}$$

$$\left(\left(\frac{1}{3}\right)^2 \div \left(\frac{1}{6}\right)^2 + \frac{1}{2}\right) \times \frac{1}{4} - \frac{3}{5}$$
$$= \left(\frac{1}{9} \div \left(\frac{1}{6}\right)^2 + \frac{1}{2}\right) \times \frac{1}{4} - \frac{3}{5}$$
$$= \left(\frac{1}{9} \div \frac{1}{36} + \frac{1}{2}\right) \times \frac{1}{4} - \frac{3}{5}$$
$$= \left(4 + \frac{1}{2}\right) \times \frac{1}{4} - \frac{3}{5}$$
$$= \frac{9}{2} \times \frac{1}{4} - \frac{3}{5}$$
$$= \frac{9}{8} - \frac{3}{5}$$
$$= \frac{21}{40}$$

$$\left(\frac{1}{6} + \frac{8}{9} \div \frac{1}{3} - \frac{5}{6}\right)^3 \times \frac{1}{5} \div \frac{7}{9}$$
$$= \left(\frac{1}{6} + \frac{8}{3} - \frac{5}{6}\right)^3 \times \frac{1}{5} \div \frac{7}{9}$$
$$= \left(\frac{17}{6} - \frac{5}{6}\right)^3 \times \frac{1}{5} \div \frac{7}{9}$$
$$= 2^3 \times \frac{1}{5} \div \frac{7}{9}$$
$$= 8 \times \frac{1}{5} \div \frac{7}{9}$$
$$= \frac{8}{5} \div \frac{7}{9}$$
$$= \frac{72}{35}$$
$$= 2\frac{2}{35}$$

Order of Operations with Fractions (D)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

$\left(\left(\frac{5}{8} + \frac{1}{4} - \frac{7}{8}\right) \div \left(\frac{7}{9}\right)^2\right)^2 \times \frac{1}{5}$

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

Order of Operations with Fractions (D)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

$$= \frac{11}{24} \div \left(\frac{8}{9} - \left(\frac{2}{3}\right)^2\right)$$

$$= \frac{11}{24} \div \left(\frac{8}{9} - \frac{4}{9}\right)$$

$$= \frac{11}{24} \div \frac{4}{9}$$

$$= \frac{33}{32}$$

$$= 1\frac{1}{32}$$

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

$$= \left(\frac{11}{12} \div \left(\frac{1}{2}\right)^2 - \frac{5}{9}\right) \times \frac{3}{4} \div \frac{1}{9}$$

$$= \left(\frac{11}{12} \div \frac{1}{4} - \frac{5}{9}\right) \times \frac{3}{4} \div \frac{1}{9}$$

$$= \left(\frac{11}{3} - \frac{5}{9}\right) \times \frac{3}{4} \div \frac{1}{9}$$

$$= \frac{28}{9} \times \frac{3}{4} \div \frac{1}{9}$$

$$= \frac{7}{3} \div \frac{1}{9}$$

$$= 21$$

$$\left(\left(\frac{5}{8} + \frac{1}{4} - \frac{7}{8}\right) \div \left(\frac{7}{9}\right)^2\right)^2 \times \frac{1}{5}$$

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

$$= \left(0 \div \left(\frac{7}{9}\right)^2\right)^2 \times \frac{1}{5}$$

$$= \left(0 \div \frac{49}{81}\right)^2 \times \frac{1}{5}$$

$$= 0^2 \times \frac{1}{5}$$

$$= 0 \times \frac{1}{5}$$

$$= 0$$

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

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

$$= 0 \div \frac{1}{2} + \left(\frac{5}{6}\right)^2 + \frac{2}{9}$$

$$= 0 \div \frac{1}{2} + \frac{25}{36} + \frac{2}{9}$$

$$= 0 + \frac{25}{36} + \frac{2}{9}$$

$$= \frac{25}{36} + \frac{2}{9}$$

$$= \frac{11}{12}$$

Order of Operations with Fractions (E)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

Order of Operations with Fractions (E)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\left(\left(\frac{5}{6}\right)^2 - \left(\frac{1}{3}\right)^2\right) \div \frac{1}{4} \times \frac{5}{9} + \frac{4}{9}$$
$$= \left(\frac{25}{36} - \left(\frac{1}{3}\right)^2\right) \div \frac{1}{4} \times \frac{5}{9} + \frac{4}{9}$$
$$= \left(\frac{25}{36} - \frac{1}{9}\right) \div \frac{1}{4} \times \frac{5}{9} + \frac{4}{9}$$
$$= \frac{7}{12} \div \frac{1}{4} \times \frac{5}{9} + \frac{4}{9}$$
$$= \frac{7}{3} \times \frac{5}{9} + \frac{4}{9}$$
$$= \frac{35}{27} + \frac{4}{9}$$
$$= \frac{47}{27}$$
$$= 1\frac{20}{27}$$

$$\left(\left(\frac{5}{8} - \frac{3}{8} + \frac{1}{8} \div \frac{2}{5}\right) \times \frac{8}{9}\right) \div \left(\frac{5}{6}\right)^2$$
$$= \left(\left(\frac{5}{8} - \frac{3}{8} + \frac{5}{16}\right) \times \frac{8}{9}\right) \div \left(\frac{5}{6}\right)^2$$
$$= \left(\left(\frac{1}{4} + \frac{5}{16}\right) \times \frac{8}{9}\right) \div \left(\frac{5}{6}\right)^2$$
$$= \left(\frac{9}{16} \times \frac{8}{9}\right) \div \left(\frac{5}{6}\right)^2$$
$$= \frac{1}{2} \div \left(\frac{5}{6}\right)^2$$
$$= \frac{1}{2} \div \frac{25}{36}$$
$$= \frac{18}{25}$$

$$\frac{1}{5} + \frac{3}{8} \div \left(\left(\frac{2}{3}\right)^2 - \frac{1}{6}\right) \times \left(\frac{2}{9} + \frac{1}{9}\right)$$
$$= \frac{1}{5} + \frac{3}{8} \div \left(\frac{4}{9} - \frac{1}{6}\right) \times \left(\frac{2}{9} + \frac{1}{9}\right)$$
$$= \frac{1}{5} + \frac{3}{8} \div \frac{5}{18} \times \left(\frac{2}{9} + \frac{1}{9}\right)$$
$$= \frac{1}{5} + \frac{3}{8} \div \frac{5}{18} \times \frac{1}{3}$$
$$= \frac{1}{5} + \frac{27}{20} \times \frac{1}{3}$$
$$= \frac{1}{5} + \frac{9}{20}$$
$$= \frac{13}{20}$$

$$\frac{1}{9} \times \left(\left(\frac{5}{6}\right)^2 \div \left(\frac{1}{3}\right)^2 + \frac{1}{4} - \frac{1}{8}\right)$$
$$= \frac{1}{9} \times \left(\frac{25}{36} \div \left(\frac{1}{3}\right)^2 + \frac{1}{4} - \frac{1}{8}\right)$$
$$= \frac{1}{9} \times \left(\frac{25}{36} \div \frac{1}{9} + \frac{1}{4} - \frac{1}{8}\right)$$
$$= \frac{1}{9} \times \left(\frac{25}{4} + \frac{1}{4} - \frac{1}{8}\right)$$
$$= \frac{1}{9} \times \left(\frac{13}{2} - \frac{1}{8}\right)$$
$$= \frac{1}{9} \times \frac{51}{8}$$
$$= \frac{17}{24}$$

Order of Operations with Fractions (F)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

Order of Operations with Fractions (F)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\frac{1}{9} \div \left(\frac{3}{5} + \frac{2}{5} \times \frac{3}{4} - \frac{4}{5}\right) \div \left(\frac{2}{3}\right)^3$$
$$= \frac{1}{9} \div \left(\frac{3}{5} + \frac{3}{10} - \frac{4}{5}\right) \div \left(\frac{2}{3}\right)^3$$
$$= \frac{1}{9} \div \left(\frac{9}{10} - \frac{4}{5}\right) \div \left(\frac{2}{3}\right)^3$$
$$= \frac{1}{9} \div \frac{1}{10} \div \left(\frac{2}{3}\right)^3$$
$$= \frac{1}{9} \div \frac{1}{10} \div \frac{8}{27}$$
$$= \frac{10}{9} \div \frac{8}{27}$$
$$= \frac{15}{4}$$
$$= 3\frac{3}{4}$$

$$\left(\left(\frac{3}{8}\right)^2 - \left(\frac{1}{4}\right)^3\right) \div \frac{1}{2} + \frac{5}{9} \times \frac{1}{8}$$
$$= \left(\frac{9}{64} - \left(\frac{1}{4}\right)^3\right) \div \frac{1}{2} + \frac{5}{9} \times \frac{1}{8}$$
$$= \left(\frac{9}{64} - \frac{1}{64}\right) \div \frac{1}{2} + \frac{5}{9} \times \frac{1}{8}$$
$$= \frac{1}{8} \div \frac{1}{2} + \frac{5}{9} \times \frac{1}{8}$$
$$= \frac{1}{4} + \frac{5}{9} \times \frac{1}{8}$$
$$= \frac{1}{4} + \frac{5}{72}$$
$$= \frac{23}{72}$$

$$\left(\frac{1}{3}\right)^3 \div \left(\frac{5}{6} - \frac{5}{9} + \frac{1}{6} \times \frac{3}{4}\right) \times \frac{5}{8}$$
$$= \left(\frac{1}{3}\right)^3 \div \left(\frac{5}{6} - \frac{5}{9} + \frac{1}{8}\right) \times \frac{5}{8}$$
$$= \left(\frac{1}{3}\right)^3 \div \left(\frac{5}{18} + \frac{1}{8}\right) \times \frac{5}{8}$$
$$= \left(\frac{1}{3}\right)^3 \div \frac{29}{72} \times \frac{5}{8}$$
$$= \frac{1}{27} \div \frac{29}{72} \times \frac{5}{8}$$
$$= \frac{8}{87} \times \frac{5}{8}$$
$$= \frac{5}{87}$$

$$\left(\frac{3}{8} \times \frac{4}{9} \div \frac{1}{5} - \left(\frac{1}{2}\right)^2 + \frac{1}{4}\right) \div \frac{5}{9}$$
$$= \left(\frac{3}{8} \times \frac{4}{9} \div \frac{1}{5} - \frac{1}{4} + \frac{1}{4}\right) \div \frac{5}{9}$$
$$= \left(\frac{1}{6} \div \frac{1}{5} - \frac{1}{4} + \frac{1}{4}\right) \div \frac{5}{9}$$
$$= \left(\frac{5}{6} - \frac{1}{4} + \frac{1}{4}\right) \div \frac{5}{9}$$
$$= \left(\frac{7}{12} + \frac{1}{4}\right) \div \frac{5}{9}$$
$$= \frac{5}{6} \div \frac{5}{9}$$
$$= \frac{3}{2}$$
$$= 1\frac{1}{2}$$

Order of Operations with Fractions (G)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

$\left(\frac{4}{9} + \frac{7}{9}\right) \times \left(\frac{3}{4}\right)^2 - \frac{1}{3} \div \frac{8}{9} + \frac{5}{6}$

Order of Operations with Fractions (G)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\frac{8}{9}\times\left(\left(\frac{1}{2}\right)^3\div\left(\frac{2}{3}\right)^2-\frac{1}{4}+\frac{7}{8}\right)$$
$$=\frac{8}{9}\times\left(\frac{1}{8}\div\left(\frac{2}{3}\right)^2-\frac{1}{4}+\frac{7}{8}\right)$$
$$=\frac{8}{9}\times\left(\frac{1}{8}\div\frac{4}{9}-\frac{1}{4}+\frac{7}{8}\right)$$
$$=\frac{8}{9}\times\left(\frac{9}{32}-\frac{1}{4}+\frac{7}{8}\right)$$
$$=\frac{8}{9}\times\left(\frac{1}{32}+\frac{7}{8}\right)$$
$$=\frac{8}{9}\times\frac{29}{32}$$
$$=\frac{29}{36}$$

$$\frac{2}{3}\div\left(\frac{3}{5}+\left(\frac{1}{3}\right)^2\right)\times\frac{1}{2}-\left(\frac{1}{4}\right)^2$$
$$=\frac{2}{3}\div\left(\frac{3}{5}+\frac{1}{9}\right)\times\frac{1}{2}-\left(\frac{1}{4}\right)^2$$
$$=\frac{2}{3}\div\frac{32}{45}\times\frac{1}{2}-\left(\frac{1}{4}\right)^2$$
$$=\frac{2}{3}\div\frac{32}{45}\times\frac{1}{2}-\frac{1}{16}$$
$$=\frac{15}{16}\times\frac{1}{2}-\frac{1}{16}$$
$$=\frac{15}{32}-\frac{1}{16}$$
$$=\frac{13}{32}$$

$$\left(\frac{1}{4}+\left(\frac{1}{3}\right)^3\div\left(\frac{2}{9}-\frac{1}{6}\right)\right)\times\left(\frac{2}{3}\right)^3$$
$$=\left(\frac{1}{4}+\left(\frac{1}{3}\right)^3\div\frac{1}{18}\right)\times\left(\frac{2}{3}\right)^3$$
$$=\left(\frac{1}{4}+\frac{1}{27}\div\frac{1}{18}\right)\times\left(\frac{2}{3}\right)^3$$
$$=\left(\frac{1}{4}+\frac{2}{3}\right)\times\left(\frac{2}{3}\right)^3$$
$$=\frac{11}{12}\times\left(\frac{2}{3}\right)^3$$
$$=\frac{11}{12}\times\frac{8}{27}$$
$$=\frac{22}{81}$$

$$\left(\frac{4}{9}+\frac{7}{9}\right)\times\left(\frac{3}{4}\right)^2-\frac{1}{3}\div\frac{8}{9}+\frac{5}{6}$$
$$=\frac{11}{9}\times\left(\frac{3}{4}\right)^2-\frac{1}{3}\div\frac{8}{9}+\frac{5}{6}$$
$$=\frac{11}{9}\times\frac{9}{16}-\frac{1}{3}\div\frac{8}{9}+\frac{5}{6}$$
$$=\frac{11}{16}-\frac{1}{3}\div\frac{8}{9}+\frac{5}{6}$$
$$=\frac{11}{16}-\frac{3}{8}+\frac{5}{6}$$
$$=\frac{5}{16}+\frac{5}{6}$$
$$=\frac{55}{48}$$
$$=1\frac{7}{48}$$

Order of Operations with Fractions (H)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

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

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

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

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

Order of Operations with Fractions (H)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\left(\left(\frac{3}{4}\right)^2 \div \frac{1}{4}\right) \times \left(\frac{5}{6} - \frac{1}{2} + \left(\frac{1}{5}\right)^2\right)$$
$$= \left(\frac{9}{16} \div \frac{1}{4}\right) \times \left(\frac{5}{6} - \frac{1}{2} + \left(\frac{1}{5}\right)^2\right)$$
$$= \frac{9}{4} \times \left(\frac{5}{6} - \frac{1}{2} + \left(\frac{1}{5}\right)^2\right)$$
$$= \frac{9}{4} \times \left(\frac{5}{6} - \frac{1}{2} + \frac{1}{25}\right)$$
$$= \frac{9}{4} \times \left(\frac{1}{3} + \frac{1}{25}\right)$$
$$= \frac{9}{4} \times \frac{28}{75}$$
$$= \frac{21}{25}$$

$$\frac{1}{8} + \frac{1}{3} \div \left(\left(\frac{2}{9} - \frac{1}{9} \times \frac{1}{2}\right) \div \frac{1}{6}\right)^2$$
$$= \frac{1}{8} + \frac{1}{3} \div \left(\left(\frac{2}{9} - \frac{1}{18}\right) \div \frac{1}{6}\right)^2$$
$$= \frac{1}{8} + \frac{1}{3} \div \left(\frac{1}{6} \div \frac{1}{6}\right)^2$$
$$= \frac{1}{8} + \frac{1}{3} \div 1^2$$
$$= \frac{1}{8} + \frac{1}{3} \div 1$$
$$= \frac{1}{8} + \frac{1}{3}$$
$$= \frac{11}{24}$$

$$\frac{1}{2} \times \left(\left(\frac{1}{3}\right)^2 + \frac{2}{9}\right)^3 \div \left(\frac{7}{9} - \frac{1}{6}\right)$$
$$= \frac{1}{2} \times \left(\frac{1}{9} + \frac{2}{9}\right)^3 \div \left(\frac{7}{9} - \frac{1}{6}\right)$$
$$= \frac{1}{2} \times \left(\frac{1}{3}\right)^3 \div \left(\frac{7}{9} - \frac{1}{6}\right)$$
$$= \frac{1}{2} \times \left(\frac{1}{3}\right)^3 \div \frac{11}{18}$$
$$= \frac{1}{2} \times \frac{1}{27} \div \frac{11}{18}$$
$$= \frac{1}{54} \div \frac{11}{18}$$
$$= \frac{1}{33}$$

$$\left(\frac{4}{9} + \left(\frac{1}{3}\right)^2 \times \frac{7}{8} - \frac{1}{4}\right) \div \frac{3}{4} + \frac{8}{9}$$
$$= \left(\frac{4}{9} + \frac{1}{9} \times \frac{7}{8} - \frac{1}{4}\right) \div \frac{3}{4} + \frac{8}{9}$$
$$= \left(\frac{4}{9} + \frac{7}{72} - \frac{1}{4}\right) \div \frac{3}{4} + \frac{8}{9}$$
$$= \left(\frac{13}{24} - \frac{1}{4}\right) \div \frac{3}{4} + \frac{8}{9}$$
$$= \frac{7}{24} \div \frac{3}{4} + \frac{8}{9}$$
$$= \frac{7}{18} + \frac{8}{9}$$
$$= \frac{23}{18}$$
$$= 1\frac{5}{18}$$

Order of Operations with Fractions (I)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$\frac{7}{9} \div \left(\frac{4}{9} + \frac{7}{8}\right) \times \left(\frac{3}{4} - \frac{5}{8} \div \frac{5}{6}\right)^2$

$\frac{2}{9} \div \left(\frac{8}{9} - \frac{7}{9}\right) \times \left(\frac{1}{4}\right)^2 + \frac{5}{9} - \frac{1}{6}$

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

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

Order of Operations with Fractions (I)

Name: _____ Date: _____

Simplify each expression using the correct order of operations.

$$\frac{7}{9} \div \left(\frac{4}{9} + \frac{7}{8}\right) \times \left(\frac{3}{4} - \frac{5}{8} \div \frac{5}{6}\right)^2$$

$$= \frac{7}{9} \div \frac{95}{72} \times \left(\frac{3}{4} - \frac{5}{8} \div \frac{5}{6}\right)^2$$

$$= \frac{7}{9} \div \frac{95}{72} \times \left(\frac{3}{4} - \frac{3}{4}\right)^2$$

$$= \frac{7}{9} \div \frac{95}{72} \times 0^2$$

$$= \frac{7}{9} \div \frac{95}{72} \times 0$$

$$= \frac{56}{95} \times 0$$

$$= 0$$

$$\frac{2}{9} \div \left(\frac{8}{9} - \frac{7}{9}\right) \times \left(\frac{1}{4}\right)^2 + \frac{5}{9} - \frac{1}{6}$$

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

$$= \frac{2}{9} \div \frac{1}{9} \times \frac{1}{16} + \frac{5}{9} - \frac{1}{6}$$

$$= 2 \times \frac{1}{16} + \frac{5}{9} - \frac{1}{6}$$

$$= \frac{1}{8} + \frac{5}{9} - \frac{1}{6}$$

$$= \frac{49}{72} - \frac{1}{6}$$

$$= \frac{37}{72}$$

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

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

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

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

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

$$= \frac{3}{5} \times \frac{13}{18}$$

$$= \frac{13}{30}$$

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

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

$$= \frac{2}{9} + \frac{1}{3} \times \left(\frac{1}{27} \div \left(\frac{1}{4}\right)^2\right)$$

$$= \frac{2}{9} + \frac{1}{3} \times \left(\frac{1}{27} \div \frac{1}{16}\right)$$

$$= \frac{2}{9} + \frac{1}{3} \times \frac{16}{27}$$

$$= \frac{2}{9} + \frac{16}{81}$$

$$= \frac{34}{81}$$

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$= 0$$