

November
Math Bowl – Fractions – add and subtract

1. Add or subtract. Your final answer must be written as a mixed number in lowest terms.

$$\frac{5}{6} + \frac{2}{3} - (.6) + \frac{7}{10} =$$

$$= \frac{5}{6} + \frac{4}{6} - \frac{6}{10} + \frac{7}{10}$$

$$= \frac{9 \times 5}{6 \times 5} + \frac{1 \times 3}{10 \times 3}$$

$$= \frac{45}{30} + \frac{3}{30}$$

$$= \frac{48}{30}$$

$$= 1 \frac{18 \div 6}{30 \div 6}$$

$$= 1 \frac{3}{5}$$

Adding Mixed Numbers

Example 1.

First add the fractions.

Add the whole numbers.

$$\begin{array}{r} 1 \frac{2}{5} \\ + 3 \frac{1}{5} \\ \hline 4 \frac{3}{5} \end{array}$$

Example 2.

Write fractions with a common denominator.

Add the fractions.

Add the whole numbers.

$$\begin{array}{r} 4 \frac{1}{4} = 4 \frac{3}{12} \\ + 1 \frac{1}{3} = + 1 \frac{4}{12} \\ \hline 5 \frac{7}{12} \end{array}$$

Example 3.

Write fractions with a common denominator.

Add the fractions.

Add the whole numbers.

Regroup so that the fraction is less than 1.

Add and reduce to lowest terms.

$$\begin{array}{r} 2 \frac{1}{2} = 2 \frac{3}{6} \\ + 1 \frac{2}{3} = + 1 \frac{4}{6} \\ \hline 3 \frac{7}{6} = 4 \frac{1}{6} \end{array}$$

1.
$$\begin{array}{r} 2 \frac{1}{4} \\ + 3 \frac{1}{4} \\ \hline 5 \frac{2}{4} = 5 \frac{1}{2} \end{array}$$

2.
$$\begin{array}{r} 6 \frac{1}{5} \\ + 3 \frac{2}{5} \\ \hline 9 \frac{3}{5} \end{array}$$

3.
$$\begin{array}{r} 1 \frac{1}{2} \\ + 3 \frac{1}{2} \\ \hline 4 \frac{2}{2} = 5 \end{array}$$

4.
$$\begin{array}{r} 3 \frac{3}{5} = 3 \frac{9}{15} \\ + 1 \frac{2}{3} = + 1 \frac{10}{15} \\ \hline 4 \frac{19}{15} = 5 \frac{4}{15} \end{array}$$

5.
$$\begin{array}{r} 8 \frac{3}{4} = 8 \frac{9}{12} \\ + 4 \frac{2}{3} = + 4 \frac{8}{12} \\ \hline 12 \frac{17}{12} = 13 \frac{5}{12} \end{array}$$

6.
$$\begin{array}{r} 8 \frac{1}{8} \\ + 6 \frac{3}{4} \frac{6}{8} \\ \hline 14 \frac{7}{8} \end{array}$$

7.
$$\begin{array}{r} 7 \frac{4}{5} \\ + 3 \\ \hline 10 \frac{4}{5} \end{array}$$

8.
$$\begin{array}{r} 2 \frac{5}{8} = 2 \frac{15}{24} \\ + 2 \frac{5}{6} = + 2 \frac{20}{24} \\ \hline 4 \frac{35}{24} = 5 \frac{11}{24} \end{array}$$

9.
$$\begin{array}{r} 3 \frac{1}{4} = 3 \frac{2}{8} \\ + 8 \frac{5}{8} = + 8 \frac{5}{8} \\ \hline 11 \frac{7}{8} \end{array}$$

Subtracting Mixed Numbers

Step 1. Write fractions with a common denominator.

$$5\frac{2}{3} = 5\frac{4}{6}$$

Step 2. Subtract fractional numbers.

$$\begin{array}{r} 1\frac{1}{2} \\ - 1\frac{3}{6} \\ \hline \end{array}$$

Step 3. Subtract whole numbers.

$$4\frac{1}{6}$$

Solve.

A.
$$\begin{array}{r} 4\frac{3}{4} \\ - 2\frac{1}{4} \\ \hline 2\frac{1}{2} \end{array}$$

B.
$$\begin{array}{r} 6\frac{1}{2} \\ - 3\frac{1}{6} \\ \hline 3\frac{1}{3} \end{array}$$

C.
$$\begin{array}{r} 6\frac{7}{8} \\ - 2\frac{3}{8} \\ \hline 4\frac{1}{2} \end{array}$$

D.
$$\begin{array}{r} 12\frac{3}{4} \\ - 6\frac{2}{8} \\ \hline 6\frac{1}{2} \end{array}$$

E.
$$\begin{array}{r} 9\frac{3}{4} \\ - 4\frac{1}{3} \\ \hline 5\frac{5}{12} \end{array}$$

F.
$$\begin{array}{r} 11 \\ - 3\frac{1}{2} \\ \hline 7\frac{1}{2} \end{array}$$

G.
$$\begin{array}{r} 9\frac{1}{3} \\ - 6\frac{1}{2} \\ \hline 2\frac{5}{6} \end{array}$$

H.
$$\begin{array}{r} 12\frac{3}{8} \\ - 6 \\ \hline 6\frac{3}{8} \end{array}$$

I.
$$\begin{array}{r} 6\frac{1}{4} \\ - 2\frac{1}{2} \\ \hline 3\frac{3}{4} \end{array}$$

J.
$$\begin{array}{r} 6\frac{3}{8} \\ - 1\frac{3}{4} \\ \hline 4\frac{5}{8} \end{array}$$

Adding Mixed Numbers

practice sheet 2

Add and reduce to lowest terms.

$$1. \quad \begin{array}{r} 12 \frac{2}{3} \frac{6}{9} \\ + 13 \frac{5}{9} \\ \hline \end{array}$$

$$25 \frac{11}{9} = 26 \frac{2}{9}$$

$$2. \quad \begin{array}{r} 6 \frac{5}{8} \\ + 3 \\ \hline \end{array}$$

$$9 \frac{5}{8}$$

$$3. \quad \begin{array}{r} 9 \frac{5}{9} \\ + 4 \frac{1}{3} \frac{3}{9} \\ \hline \end{array}$$

$$13 \frac{8}{9}$$

$$4. \quad \begin{array}{r} 1 \frac{7}{8} \\ + 4 \frac{1}{4} \frac{2}{8} \\ \hline \end{array}$$

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

$$5. \quad \begin{array}{r} 5 \frac{1}{2} \frac{2}{4} \\ + 2 \frac{3}{4} \\ \hline \end{array}$$

$$7 \frac{5}{4} = 8 \frac{1}{4}$$

$$6. \quad \begin{array}{r} 7 \frac{1}{3} \\ + 2 \frac{2}{3} \\ \hline \end{array}$$

$$9 \frac{3}{3} = 10$$

Subtracting Fractions

with Unlike Denominators

Step 1: Find equivalent fractions and rewrite the problem so that the denominators are the same.

Step 2: Subtract the numerators.

Step 3: Use the same denominator.

example:

$$\begin{array}{r} \frac{1}{4} = \frac{2}{8} \\ - \frac{1}{8} = \frac{1}{8} \\ \hline \frac{1}{8} \end{array}$$

$$a. \quad \begin{array}{r} \frac{4}{8} \\ - \frac{1}{4} \\ \hline \end{array}$$

$$\frac{2}{8} = \frac{1}{4}$$

$$b. \quad \begin{array}{r} \frac{7}{12} \\ - \frac{3}{6} \frac{6}{12} \\ \hline \end{array}$$

$$\frac{1}{12}$$

$$c. \quad \begin{array}{r} \frac{1}{2} \frac{3}{6} \\ - \frac{1}{6} \\ \hline \end{array}$$

$$\frac{2}{6} = \frac{1}{3}$$

$$d. \quad \begin{array}{r} \frac{9}{10} \\ - \frac{1}{2} \frac{5}{10} \\ \hline \end{array}$$

$$\frac{4}{10} = \frac{2}{5}$$

$$e. \quad \begin{array}{r} \frac{4}{6} \\ - \frac{1}{3} \frac{2}{6} \\ \hline \end{array}$$

$$\frac{2}{6} = \frac{1}{3}$$

$$f. \quad \begin{array}{r} \frac{7}{10} \\ - \frac{2}{5} \frac{4}{10} \\ \hline \end{array}$$

$$\frac{3}{10}$$