

Adding and Subtracting Mixed Numbers

EXAMPLES Add or Subtract Mixed Numbers

MAIN IDEA

- Add and subtract mixed numbers.

KEY CONCEPT

Adding and Subtracting Mixed Numbers To add or subtract mixed numbers, first add or subtract the fractions. Then add or subtract the whole numbers. Rename and simplify if necessary.

1 Find $6\frac{7}{8} - 3\frac{1}{8}$.

Estimate $\square - \square = \square$

Subtract the fractions.

$$\begin{array}{r} 6\frac{7}{8} \\ - 3\frac{1}{8} \\ \hline \square \end{array}$$

Subtract the whole numbers.

$$\begin{array}{r} 6\frac{7}{8} \\ - 3\frac{1}{8} \\ \hline \square \end{array} \text{ or } \begin{array}{r} \square \\ - \square \\ \hline \square \end{array}$$

Check for Reasonableness $3\frac{3}{4} \approx 4 \checkmark$

1 Find $3\frac{1}{5} + 5\frac{3}{4}$.

Estimate $\square + \square = \square$

Write the problem.

Rename the fractions using the LCD, 20.

Add the fractions. Then add the whole numbers.

$$\begin{array}{r} 3\frac{1}{5} \rightarrow \frac{1 \times 4}{5 \times 4} \longrightarrow 3 \begin{array}{|c|} \hline \square \\ \hline \end{array} \longrightarrow \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ + 5\frac{3}{4} \rightarrow \frac{3 \times 5}{4 \times 5} \longrightarrow + 5 \begin{array}{|c|} \hline \square \\ \hline \end{array} \longrightarrow + \begin{array}{|c|} \hline \square \\ \hline \end{array} \\ \hline \begin{array}{|c|} \hline \square \\ \hline \end{array} \end{array}$$

Check for Reasonableness $8\frac{19}{20} \approx 9 \checkmark$

Check Your Progress

Add or subtract. Write in simplest form.

a. $8\frac{7}{9} - 5\frac{4}{9}$

b. $3\frac{3}{8} + 6\frac{1}{3}$

EXAMPLES Rename Numbers to Subtract**REMEMBER IT**

Use estimation to check the reasonableness of your answers.

**1** Find $11 - 5\frac{5}{6}$.Estimate - = $11 \rightarrow$ Rename 11 as .
$$\begin{array}{r} 11 \\ - 5\frac{5}{6} \\ \hline \end{array} \rightarrow \begin{array}{r} \\ - 5\frac{5}{6} \\ \hline \end{array}$$

Subtract.

Check for Reasonableness $5\frac{1}{6} \approx 5$ ✓**2** Find $12\frac{3}{4} - 5\frac{1}{6}$.Estimate - = $12\frac{3}{4} \rightarrow$ Rename $\frac{3}{4}$ and $\frac{1}{6}$ using their LCD, .
$$\begin{array}{r} 12\frac{3}{4} \\ - 5\frac{1}{6} \\ \hline \end{array} \rightarrow \begin{array}{r} \\ - \\ \hline \end{array}$$

Subtract.

Check for Reasonableness $7\frac{7}{12} \approx 8$ ✓**Check Your Progress****a.** Find $8 - 5\frac{5}{8}$.
b. Find $11\frac{5}{6} - 7\frac{1}{4}$.

EXAMPLE**REMEMBER IT**

Use estimation to check the reasonableness of your answers.

5 TEST EXAMPLE Alice ran $10\frac{1}{5}$ miles on Monday. On Wednesday, she ran $9\frac{3}{4}$ miles. How many miles did Alice run on both days?

A $1\frac{11}{20}$ miles

C $19\frac{19}{20}$ miles

B $19\frac{11}{20}$ miles

D $20\frac{19}{20}$ miles

Read the Item

You need to find the distance Alice ran on both days.

Solve the Item

First use the LCD to rename the fractions. Then add.

Alice ran

The answer is

$$10\frac{1}{5} \longrightarrow$$

10

$$+ 9\frac{3}{4} \longrightarrow$$

+ 9

Check Your Progress

MULTIPLE CHOICE How far will

Claire travel if she rides a bus from school to the library and then home?

F $7\frac{6}{14}$ miles

H $7\frac{11}{12}$ miles

G $7\frac{23}{24}$ miles

J $7\frac{17}{18}$ miles



School



Claire's Home

$4\frac{5}{6}$ miles

$3\frac{1}{8}$ miles



Library

HOMEWORK ASSIGNMENT

Page(s):

Exercises: