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. **Estimate**



Subtract the fractions.

Subtract the whole numbers.

$$6\frac{7}{8}$$
 \longrightarrow $3\frac{1}{2}$ \longrightarrow



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

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

Estimate



Write the problem.

Rename the fractions using the LCD, 20.

Add the fractions. Then add the whole numbers.

$$3\frac{1}{5} \longrightarrow \frac{1 \times 4}{5 \times 4} \longrightarrow$$

$$+5\frac{3}{4} \longrightarrow \frac{3 \times 5}{4 \times 5}$$



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

REMEMBER IT

Use estimation to check the reasonableness of your answers.

Rename 11 as

$$-5\frac{5}{6} \longrightarrow -5\frac{5}{6}$$

Subtract.

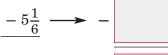
Check for Reasonableness $5\frac{1}{6} \approx 5$ \checkmark

Estimate



$$12\frac{3}{4} \longrightarrow$$

Rename $\frac{3}{4}$ and $\frac{1}{6}$ using their LCD,



Subtract.

Check for Reasonableness $7\frac{7}{12} \approx 8$ \checkmark

Check Your Progress

a. Find
$$8 - 5\frac{5}{8}$$
.

b. Find $11\frac{5}{6} - 7\frac{1}{4}$.



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.

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

Alice ran

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

The answer is

The answer is

Check Your Progress MULTIPLE CHOICE How far will

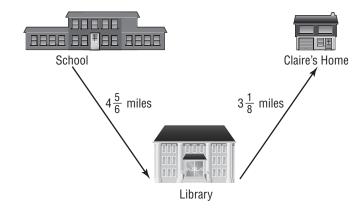
Claire travel if she rides a bus from school to the library and then home?

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

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

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

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



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Exercises: