17 Adding Unlike Denominators

SOL 4.9.a 4.9.c

Example

Selena walked $\frac{7}{10}$ mile from school to the market and then $\frac{3}{4}$ mile home. How far did Selena walk in all?

A $\frac{5}{7}$ mile

B $1\frac{2}{5}$ miles

C $1\frac{9}{20}$ miles

D $1\frac{1}{2}$ miles

Thinking It Through

Solve To add fractions with unlike denominators, find the LCD and write equivalent fractions. The LCD of $\frac{7}{10}$ and $\frac{3}{4}$ is 20.

$$\frac{7}{10} \times \frac{2}{2} = \frac{14}{20}$$
$$\frac{3}{4} \times \frac{5}{5} = + \frac{15}{20}$$
$$\frac{29}{20}$$

Write the improper fraction as a mixed number in simplest form: $29 \div 20 = 1\frac{9}{20}$. So Selena walked *$1\frac{9}{20}$ miles, answer C.*

Example

What is $\frac{5}{12} + \frac{3}{4}$?

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

B $1\frac{1}{6}$

C $1\frac{1}{4}$

D $1\frac{1}{3}$

Thinking It Through

Solve Since the LCD of 12 and 4 is 12, it is only necessary to rename $\frac{3}{4}$:

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

Add: $\frac{5}{12} + \frac{9}{12} = \frac{14}{12}$

Write as a mixed number in simplest form: $\frac{14}{12} = 1\frac{2}{12} = 1\frac{1}{6}$, *answer B.*

Review

- To add fractions with unlike denominators, find the LCD and write equivalent fractions that have like denominators.
- Once the LCD is found, add the numerators. Then write the sum in simplest form.

Adding Unlike Denominators 17

DIRECTIONS Read and solve each question. Then circle the letter of the best answer.

1 What is the sum of $\frac{3}{5} + \frac{9}{10}$?

A $1\frac{1}{5}$

B $1\frac{2}{5}$

C $1\frac{1}{2}$

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

To write a sum in simplest form, look for a common factor of the numerator and denominator.

2 In May it rained $\frac{5}{8}$ inch in Tami's hometown. In June it rained $\frac{2}{3}$ inch. How many inches did it rain altogether?

F $1\frac{1}{4}$ inches

G $1\frac{7}{24}$ inches

H $1\frac{1}{3}$ inches

J $1\frac{3}{8}$ inches

3 Which pair of addends has a sum *less than* 1?

A $\frac{1}{3} + \frac{1}{2}$

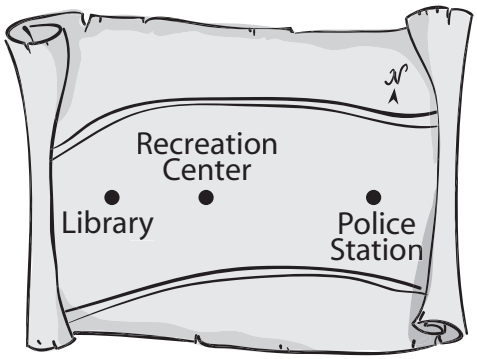
B $\frac{2}{3} + \frac{3}{4}$

C $\frac{1}{2} + \frac{5}{8}$

D $\frac{3}{5} + \frac{5}{9}$

If two addends are each $\frac{1}{2}$ or more, the sum must be at least 1.

4 The library, recreation center, and police station are on the same road. The library is $\frac{2}{5}$ mile from the recreation center. The police station is $\frac{3}{4}$ mile from the recreation center.



How far is the library from the police station?

F $1\frac{1}{20}$ miles

G $1\frac{1}{10}$ miles

H $1\frac{3}{20}$ miles

J $1\frac{1}{5}$ miles