

Adding and Subtracting Fractions with Unlike Denominators

MAIN IDEA

- Add and subtract fractions with unlike denominators.

BUILD YOUR VOCABULARY (page 115)

Unlike fractions are fractions with denominators.

EXAMPLE Add Unlike Fractions

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

The least common denominator of $\frac{3}{4}$ and $\frac{1}{5}$ is .

Write the problem.

Rename using the LCD, 20.

Add the fractions.

$$\begin{array}{r} \frac{3}{4} \rightarrow \frac{3 \times \boxed{}}{4 \times \boxed{}} = \boxed{} \rightarrow \boxed{} \\ + \frac{1}{5} \rightarrow + \frac{1 \times \boxed{}}{5 \times \boxed{}} = + \boxed{} \rightarrow + \boxed{} \\ \hline \boxed{} \end{array}$$

EXAMPLE Subtract Unlike Fractions

1 Find $\frac{3}{5} - \frac{1}{6}$.

The least common denominator of $\frac{3}{5}$ and $\frac{1}{6}$ is .

Write the problem.

Rename using the LCD, 30.

Subtract the fractions.

$$\begin{array}{r} \frac{3}{5} \rightarrow \frac{3 \times \boxed{}}{5 \times \boxed{}} = \boxed{} \rightarrow \boxed{} \\ - \frac{1}{6} \rightarrow - \frac{1 \times \boxed{}}{6 \times \boxed{}} = - \boxed{} \rightarrow - \boxed{} \\ \hline \boxed{} \end{array}$$

REVIEW IT

Name two methods to find the least common multiple of two numbers. (Lesson 4-5)

Check Your Progress

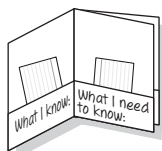
Add or subtract. Write in simplest form.

a. $\frac{1}{4} + \frac{2}{3}$

b. $\frac{5}{6} - \frac{3}{8}$

FOLDABLES**ORGANIZE IT**

Record what you learn about adding and subtracting fractions with unlike denominators on the note cards in your Foldable. As you learn the concepts, move the note cards from the Need to Know pocket to the Know pocket in your Foldable.

**EXAMPLE**

PET ADOPTION Use the table to find the fraction of adopted dogs in one town that are either golden retrievers or mixed breed.

Find $\frac{7}{25} + \frac{2}{5}$.

The least common denominator of $\frac{7}{25}$ and $\frac{2}{5}$ is .

Adopted Dogs	
Breed	Fraction
German Shepherd	$\frac{3}{20}$
Golden Retriever	$\frac{7}{25}$
Jack Russell Terrier	$\frac{1}{20}$
Poodle	$\frac{3}{25}$
Mixed breed	$\frac{2}{5}$

Write the problem.

Rename using the LCD, 25.

Add the fractions.

$$\begin{array}{rcl}
 \frac{7}{25} & \rightarrow & \frac{7 \times \boxed{}}{25 \times \boxed{}} = \boxed{} \rightarrow \frac{7}{25} \\
 + \frac{2}{5} & \rightarrow & + \frac{2 \times \boxed{}}{5 \times \boxed{}} = + \boxed{} \rightarrow + \boxed{} \\
 & & \boxed{}
 \end{array}$$

So, of the adopted dogs, are either Golden Retrievers or mixed breed.

Check Your Progress

ICE CREAM Use the table to find the fraction of the orders that are for either vanilla or chocolate ice cream.

Ice Cream Orders	
Flavor	Fraction
Chocolate	$\frac{1}{6}$
Chocolate chip	$\frac{5}{18}$
Cookie dough	$\frac{5}{36}$
Strawberry	$\frac{7}{36}$
Vanilla	$\frac{2}{9}$

EXAMPLE Evaluate an Expression with Fractions**REMEMBER IT**

The first step in evaluating an algebraic expression is replacing the variables in the expression with numbers.

4 ALGEBRA Evaluate $p - q$ if $p = \frac{5}{6}$ and $q = \frac{1}{2}$.

$$p - q = \boxed{} - \boxed{}$$

$$p = \boxed{}, q = \boxed{}$$

$$= \frac{5}{6} - \frac{1 \times \boxed{}}{2 \times \boxed{}}$$

Rename $\frac{1}{2}$ using the LCD, 6.

$$= \frac{5}{6} - \boxed{}$$

Simplify.

$$= \boxed{} \text{ or } \boxed{}$$

Subtract. Write in simplest form.

Check Your Progress

ALGEBRA Evaluate $m - n$ if $m = \frac{7}{8}$ and $n = \frac{2}{3}$.

HOMEWORK ASSIGNMENT

Page(s):

Exercises: