

Name \_\_\_\_\_

**Problem Solving • Multistep Fraction Problems**

**Essential Question** How can you use the strategy *act it out* to solve multistep problems with fractions?



**Numbers and Operations—Fractions—4.NF.B.3d** Also 4.MD.A.2

**MATHEMATICAL PRACTICES**  
**MP1, MP7**

**Unlock the Problem**

A gift shop sells walnuts in  $\frac{3}{4}$ -pound bags. Ann will buy some bags of walnuts and repackage them into 1-pound bags. What is the least number of  $\frac{3}{4}$ -pound bags Ann could buy, if she wants to fill each 1-pound bag, without leftovers?



**Read the Problem**

**What do I need to find?**

I need to find how many \_\_\_\_\_ bags of walnuts Ann needs to make 1-pound bags of walnuts, without leftovers.

**What information do I need to use?**

The bags she will buy contain \_\_\_\_\_ pound of walnuts. She will repackage the walnuts into \_\_\_\_\_ -pound bags.

**How will I use the information?**

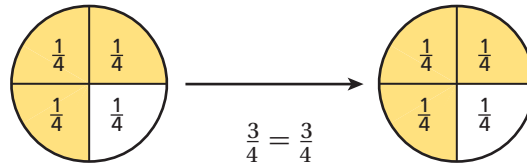
I can use fraction circles to \_\_\_\_\_ the problem.

**Solve the Problem**

**Describe how to act it out. Use fraction circles.**

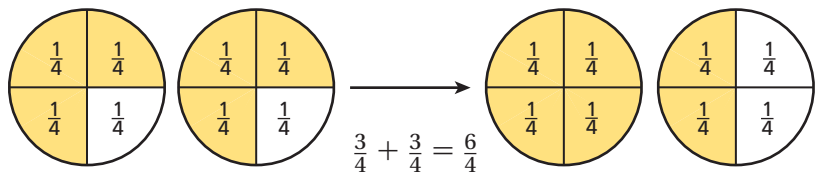
One  $\frac{3}{4}$ -pound bag

Not enough for a 1-pound bag



Two  $\frac{3}{4}$ -pound bags

One 1-pound bag with  $\frac{2}{4}$  pound left over



Three  $\frac{3}{4}$ -pound bags have  $\frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{\square}{4}$  pounds of walnuts. This makes \_\_\_\_\_ 1-pound bags with \_\_\_\_\_ pound left over.

Four  $\frac{3}{4}$ -pound bags have  $\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{\square}{4}$  -pounds of walnuts.

This makes \_\_\_\_\_ 1-pound bags with \_\_\_\_\_ left over.

So, Ann could buy \_\_\_\_\_  $\frac{3}{4}$ -pound bags of walnuts.

## Try Another Problem

At the end of dinner, a restaurant had several dishes of quiche, each with  $\frac{2}{6}$  sixth-size pieces of quiche. The chef was able to combine these pieces to make 2 whole quiches, with no leftovers. How many dishes did the chef combine?



Read the Problem	Solve the Problem
<p><b>What do I need to find?</b></p>	<p><b>Describe how to act it out.</b></p>
<p><b>What information do I need to use?</b></p>	
<p><b>How will I use the information?</b></p>	

So, the chef combined \_\_\_\_\_ dishes each with  $\frac{2}{6}$  quiche.

Name \_\_\_\_\_

## Share and Show



1. Last week, Sia ran  $1\frac{1}{4}$  miles each day for 5 days and then took 2 days off. Did she run at least 6 miles last week?

**First**, model the problem. Describe your model.

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**Then**, regroup the parts in the model to find the number of whole miles Sia ran.

Sia ran \_\_\_\_\_ whole miles and \_\_\_\_\_ mile.

**Finally**, compare the total number of miles she ran to 6 miles.

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

So, Sia \_\_\_\_\_ run at least 6 miles last week.

2. What if Sia ran only  $\frac{3}{4}$  mile each day. Would she have run at least 6 miles last week? Explain.

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3. A quarter is  $\frac{1}{4}$  dollar. Noah has 20 quarters. How much money does he have? Explain.

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4. **THINK SMARTER** How many  $\frac{2}{5}$  parts are in 2 wholes?

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## Unlock the Problem

- ✓ Underline the question.
- ✓ Circle the important facts.
- ✓ Cross out unneeded information.

**WRITE** *Math*

**Show Your Work**



## On Your Own

5. A company shipped 15,325 boxes of apples and 12,980 boxes of oranges. How many more boxes of apples than oranges did the company ship?

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6. **MATHEMATICAL PRACTICE 1 Analyze** A fair sold a total of 3,300 tickets on Friday and Saturday. It sold 100 more on Friday than on Saturday. How many tickets did the fair sell on Friday?

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7. **THINK SMARTER** Emma walked  $\frac{1}{4}$  mile on Monday,  $\frac{2}{4}$  mile on Tuesday, and  $\frac{3}{4}$  mile on Wednesday. If the pattern continues, how many miles will she walk on Friday? Explain how you found the number of miles.

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8. **GO DEEPER** Jared painted a mug  $\frac{5}{12}$  red and  $\frac{4}{12}$  blue. What part of the mug is **not** red or blue?

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9. **THINK SMARTER** Choose the number that correctly completes the sentence.

Each day, Mrs. Hewes knits  $\frac{1}{3}$  of a scarf in the morning and  $\frac{1}{3}$  of a scarf in the afternoon.

It will take Mrs. Hewes  days to knit 2 scarves.




**WRITE** *Math*  
Show Your Work



Name \_\_\_\_\_

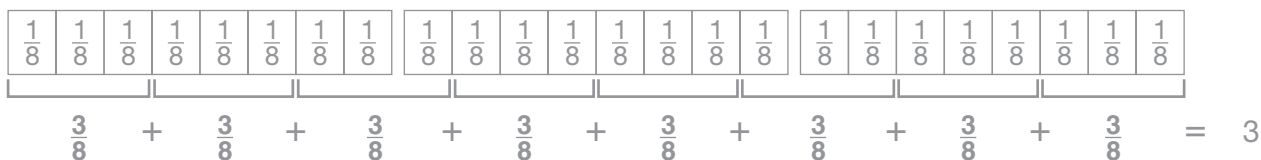
**Problem Solving • Multistep Fraction Problems**



**COMMON CORE STANDARD—4.NF.B.3d**  
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Read each problem and solve.

- Each child in the Smith family was given an orange cut into 8 equal sections. Each child ate  $\frac{5}{8}$  of the orange. After combining the leftover sections, Mrs. Smith noted that there were exactly 3 full oranges left. How many children are in the Smith family?



There are 8 addends, so there are 8 children in the Smith family.

8 children

- Val walks  $2\frac{3}{5}$  miles each day. Bill runs 10 miles once every 4 days. In 4 days, who covers the greater distance?

\_\_\_\_\_

- Chad buys peanuts in 2-pound bags. He repackages them into bags that hold  $\frac{5}{6}$  pound of peanuts. How many 2-pound bags of peanuts should Chad buy so that he can fill the  $\frac{5}{6}$ -pound bags without having any peanuts left over?

\_\_\_\_\_

- WRITE** *Math* Write a word problem that involves adding or subtracting two fractions. Draw a model and describe how you would act out the problem to solve it.

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## Lesson Check (4.NF.B.3d)

1. Karyn cuts a length of ribbon into 4 equal pieces, each  $1\frac{1}{4}$  feet long. How long was the ribbon?  

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2. Several friends each had  $\frac{2}{5}$  of a bag of peanuts left over from the baseball game. They realized that they could have bought 2 fewer bags of peanuts between them. How many friends went to the game?  

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## Spiral Review (4.OA.C.5, 4.NF.A.1, 4.NF.B.3c, 4.NF.B.3d)

3. A frog made three jumps. The first was  $12\frac{5}{6}$  inches. The second jump was  $8\frac{3}{6}$  inches. The third jump was  $15\frac{1}{6}$  inches. What was the total distance the frog jumped?  

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4. LaDanian wants to write the fraction  $\frac{4}{6}$  as a sum of unit fractions. What expression should he write?  

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5. Greta made a design with squares. She colored 8 out of the 12 squares blue. What fraction of the squares did she color blue?  

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6. The teacher gave this pattern to the class: the first term is 5 and the rule is *add 4, subtract 1*. Each student says one number. The first student says 5. Victor is tenth in line. What number should Victor say?  

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