

Name _____

Rename Fractions and Mixed Numbers

Essential Question How can you rename mixed numbers as fractions greater than 1 and rename fractions greater than 1 as mixed numbers?



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

MATHEMATICAL PRACTICES
MP1, MP4

Unlock the Problem

Mr. Fox has $2\frac{3}{6}$ loaves of corn bread. Each loaf was cut into $\frac{1}{6}$ -size pieces. If he has 14 people over for dinner, is there enough bread for each person to have 1 piece?

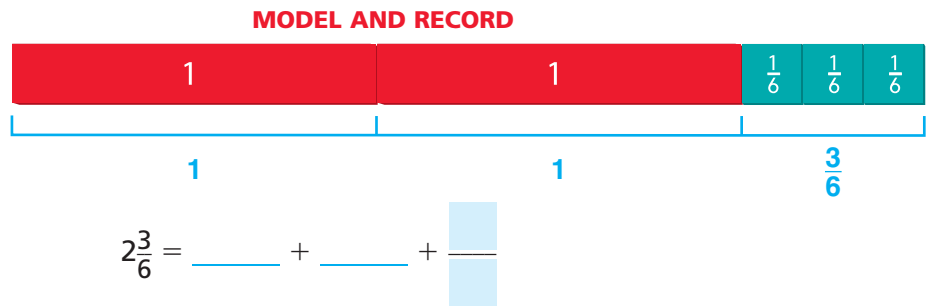
A **mixed number** is a number represented by a whole number and a fraction. You can write a mixed number as a fraction.

To find how many $\frac{1}{6}$ -size pieces are in $2\frac{3}{6}$, write $2\frac{3}{6}$ as a fraction.

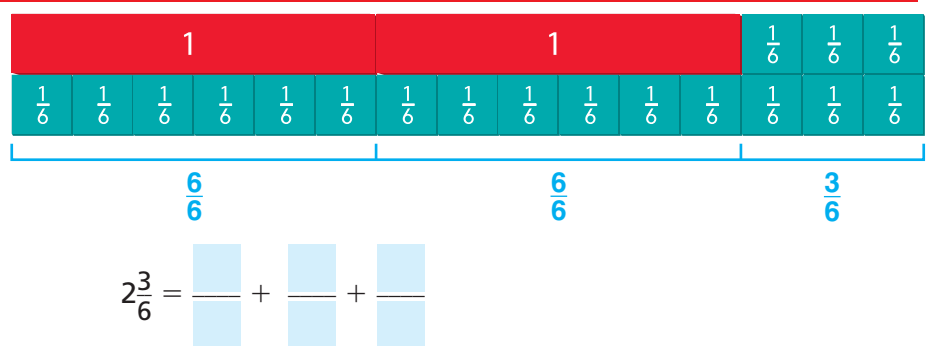
Example Write a mixed number as a fraction.

THINK

STEP 1 Model $2\frac{3}{6}$.



STEP 2 Find how many $\frac{1}{6}$ -size pieces are in each whole. Model $2\frac{3}{6}$ using only $\frac{1}{6}$ -size pieces.



STEP 3 Find the total number of $\frac{1}{6}$ -size pieces in $2\frac{3}{6}$.

Think: Find $\frac{6}{6} + \frac{6}{6} + \frac{3}{6}$.

$2\frac{3}{6} = \underline{\quad}$

There are _____ sixth-size pieces in $2\frac{3}{6}$.

So, there is enough bread for 14 people to each have 1 piece.

• What is the size of 1 piece of bread relative to the whole?

• How much bread does Mr. Fox need for 14 people?

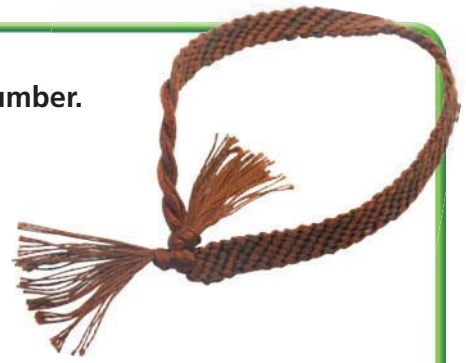


MATHEMATICAL PRACTICES 7

Look for Structure Give an example of how to write a mixed number as a fraction without using a model.

Example Write a fraction greater than 1 as a mixed number.

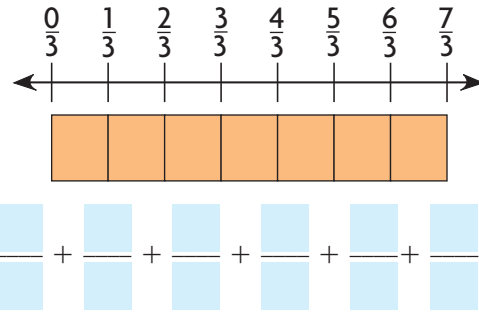
To weave a bracelet, Charlene needs 7 pieces of brown thread. Each piece of thread must be $\frac{1}{3}$ yard long. How much thread should she buy to weave the bracelet?



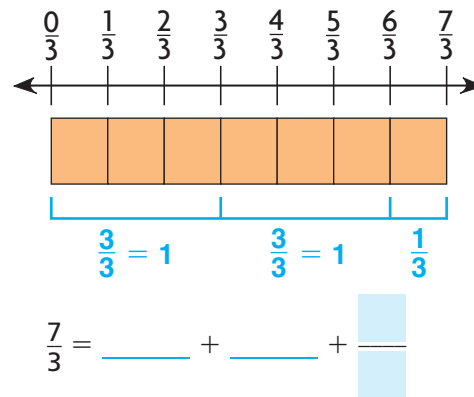
Write $\frac{7}{3}$ as a mixed number.

THINK

STEP 1 Model $\frac{7}{3}$.



STEP 2 Find how many wholes are in $\frac{7}{3}$, and how many thirds are left over.



STEP 3 Write $\frac{7}{3}$ as a mixed number.

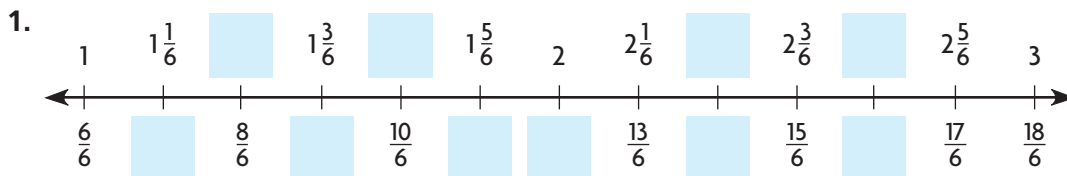
$\frac{7}{3} = 2\frac{1}{3}$

So, Charlene should buy _____ yards of thread.

Share and Show



Write the unknown numbers. Write mixed numbers above the number line and fractions greater than one below the number line.



Name _____

Write the mixed number as a fraction.

2. $1\frac{1}{8}$

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

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

Write the fraction as a mixed number.

5. $\frac{11}{4}$

6. $\frac{6}{5}$

 7. $\frac{13}{10}$

**Math
Talk**

MATHEMATICAL PRACTICES 6

Describe how you can compare $1\frac{3}{5}$ and $\frac{7}{5}$.

On Your Own

Write the mixed number as a fraction.

8. $2\frac{7}{10}$

9. $3\frac{2}{3}$

10. $4\frac{2}{5}$

MATHEMATICAL PRACTICE 8

Use Repeated Reasoning Algebra Find the unknown numbers.

11. $\frac{13}{7} = 1\frac{\square}{7}$

12. $\square\frac{5}{6} = \frac{23}{6}$

13. $\frac{57}{11} = \square\frac{\square}{11}$

14. **GO DEEPER** Pen has $\frac{1}{2}$ -cup and $\frac{1}{8}$ -cup measuring cups. What are two ways he could measure out $1\frac{3}{4}$ cups of flour?

15. **GO DEEPER** Juanita is making bread. She needs $3\frac{1}{2}$ cups of flour. Juanita only has a $\frac{1}{4}$ -cup measuring cup. How many $\frac{1}{4}$ cups of flour will Juanita use to prepare the bread?

Problem Solving • Applications



Use the recipe to solve 16–18.

16. **MATHEMATICAL PRACTICE 2 Reason Quantitatively** Cal is making energy squares. How many $\frac{1}{2}$ cups of peanut butter are used in the recipe?



17. **THINK SMARTER** Suppose Cal wants to make 2 times as many energy squares as the recipe makes. How many cups of bran cereal should he use? Write your answer as a mixed number and as a fraction greater than 1 in simplest form.

18. Cal added $2\frac{3}{8}$ cups of raisins. Write this mixed number as a fraction greater than 1 in simplest form.

19. **GO DEEPER** Jenn is preparing brown rice. She needs $1\frac{1}{2}$ cups of brown rice and 2 cups of water. Jenn has only a $\frac{1}{8}$ -cup measuring cup. How many $\frac{1}{8}$ cups each of rice and water will Jenn use to prepare the rice?



WRITE Math • Show Your Work • • • • •

20. **THINK SMARTER** Draw a line to show the mixed number and fraction that have the same value.

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

$$2\frac{3}{8}$$

$$4\frac{1}{3}$$

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



$$\frac{30}{3}$$

$$\frac{13}{3}$$

$$\frac{4}{3}$$

$$\frac{8}{5}$$

Name _____

Rename Fractions and Mixed Numbers



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

Write the mixed number as a fraction.

1. $2\frac{3}{5}$

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

3. $1\frac{2}{5}$

4. $3\frac{2}{3}$

Think: Find $\frac{5}{5} + \frac{5}{5} + \frac{3}{5}$.

$\frac{13}{5}$

5. $4\frac{1}{8}$

6. $1\frac{7}{10}$

7. $5\frac{1}{2}$

8. $2\frac{3}{8}$

Write the fraction as a mixed number.

9. $\frac{31}{6}$

10. $\frac{20}{10}$

11. $\frac{15}{8}$

12. $\frac{13}{6}$

Problem Solving



13. A recipe calls for $2\frac{2}{4}$ cups of raisins, but Julie only has a $\frac{1}{4}$ cup measuring cup. How many $\frac{1}{4}$ cups does Julie need to measure out $2\frac{2}{4}$ cups of raisins?
14. If Julie needs $3\frac{1}{4}$ cups of oatmeal, how many $\frac{1}{4}$ cups of oatmeal will she use?

15. **WRITE** *Math* Draw and explain how you can use a number line to rename a fraction greater than 1 as a mixed number.

Lesson Check (4.NF.B.3c)

1. Write a mixed number that is equivalent to $\frac{16}{3}$.
2. Stacey filled her $\frac{1}{2}$ cup measuring cup seven times to have enough flour for a cake recipe. How much flour does the cake recipe call for?

Spiral Review (4.NBT.B.5, 4.NBT.B.6, 4.NF.A.1, 4.NF.B.3d)

3. Becki put some stamps into her stamp collection book. She put 14 stamps on each page. If she completely filled 16 pages, how many stamps did she put in the book?
4. Brian is driving 324 miles to visit some friends. He wants to get there in 6 hours. How many miles does he need to drive each hour?
5. During a bike challenge, riders have to collect various colored ribbons. Each $\frac{1}{2}$ mile they collect a red ribbon, each $\frac{1}{8}$ mile they collect a green ribbon, and each $\frac{1}{4}$ mile they collect a blue ribbon. Which colors of ribbons will be collected at the $\frac{3}{4}$ mile marker?
6. Stephanie had $\frac{7}{8}$ pound of bird seed. She used $\frac{3}{8}$ pound to fill a bird feeder. How much bird seed does Stephanie have left?

