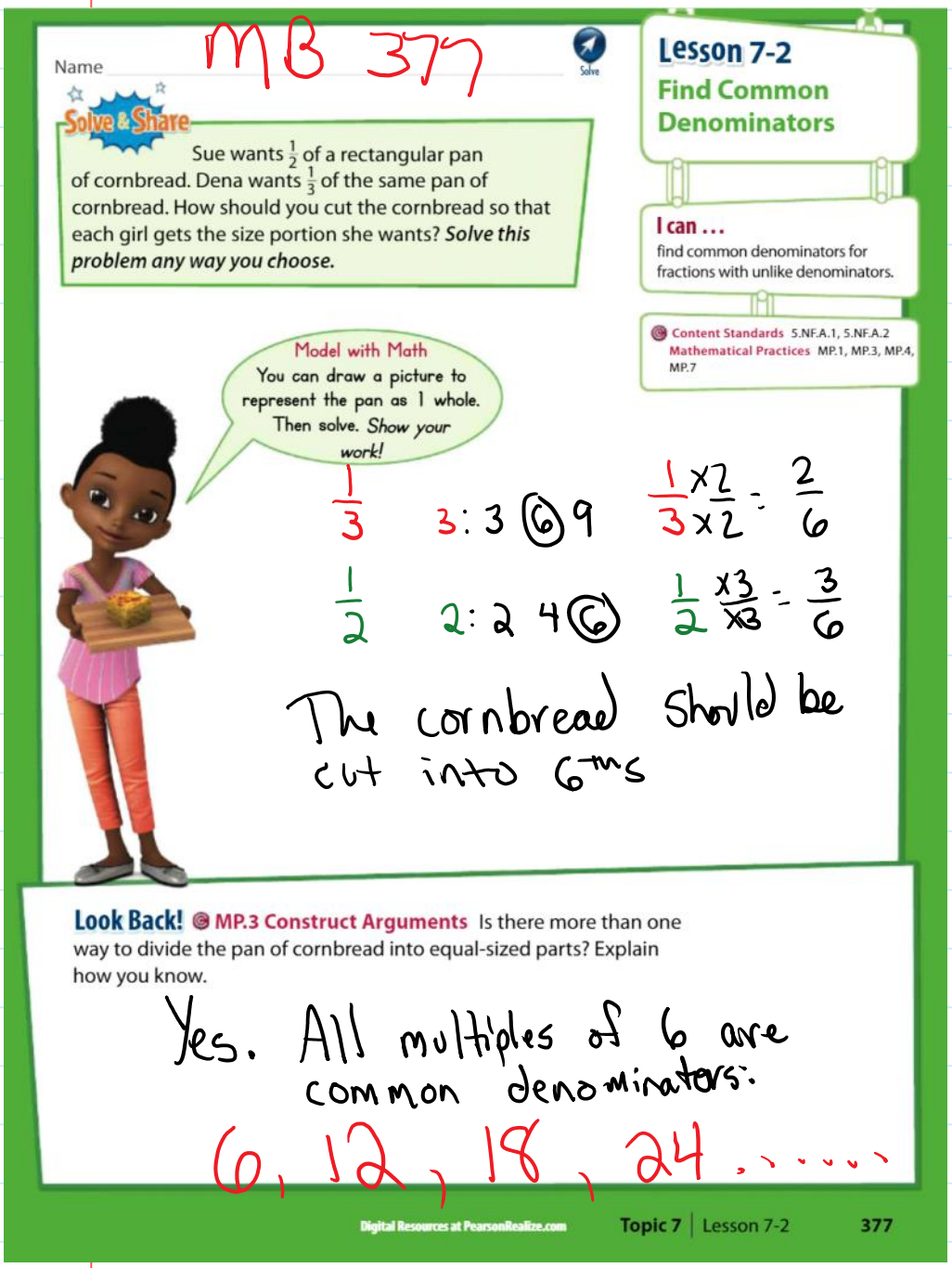
Lesson 7-2

Friday, December 13, 2019 9:58 AM



MB 377

Name

Solve & Share

Sue wants $\frac{1}{2}$ of a rectangular pan of cornbread. Dena wants $\frac{1}{3}$ of the same pan of cornbread. How should you cut the cornbread so that each girl gets the size portion she wants? *Solve this problem any way you choose.*

Model with Math
You can draw a picture to represent the pan as 1 whole. Then solve. *Show your work!*

$\frac{1}{3}$ 3: 3 6 9 $\frac{1}{3} \times \frac{2}{2} = \frac{2}{6}$

$\frac{1}{2}$ 2: 2 4 6 $\frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$

The cornbread should be cut into 6ths

Look Back! MP.3 Construct Arguments Is there more than one way to divide the pan of cornbread into equal-sized parts? Explain how you know.

Yes. All multiples of 6 are common denominators.

6, 12, 18, 24 . . . . .

Lesson 7-2
Find Common Denominators

I can ...
find common denominators for fractions with unlike denominators.

Content Standards 5.NF.A.1, 5.NF.A.2
Mathematical Practices MP.1, MP.3, MP.4, MP.7

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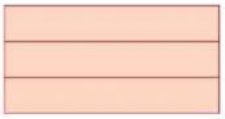
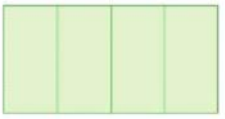
How Can You Find Common Denominators?

A

Tyrone partitioned a rectangle into thirds. Sally partitioned a rectangle of the same size into fourths. How could you partition a rectangle of the same size so that you see both thirds and fourths?

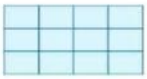


Thirds



Fourths

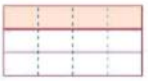
B This rectangle is partitioned into thirds and fourths.



Twelfths

The rectangle is partitioned into 12 equal parts.
Each part is $\frac{1}{12}$.

C The fractions $\frac{1}{3}$ and $\frac{1}{4}$ can be renamed with equivalent fractions.

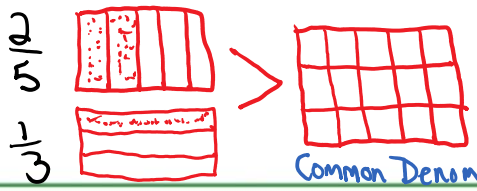


$\frac{1}{3} = \frac{4}{12}$

$\frac{1}{4} = \frac{3}{12}$

Fractions that have the same denominators, such as $\frac{4}{12}$ and $\frac{3}{12}$, are said to have common denominators.

Convince Me! MP.4 Model with Math Draw rectangles such as the ones above to find fractions equivalent to $\frac{2}{5}$ and $\frac{1}{3}$ that have the same denominator.



$\frac{2}{5} \times\frac{3}{3} = \frac{6}{15}$

$\frac{1}{3} \times\frac{5}{5} = \frac{5}{15}$

Name _____

Another Example

Find a common denominator for $\frac{7}{12}$ and $\frac{5}{6}$. Then rename each fraction with an equivalent fraction.

One Way

Multiply the denominators to find a common denominator: $12 \times 6 = 72$.

Write equivalent fractions with denominators of 72.

$\frac{7}{12} = \frac{7 \times 6}{12 \times 6} = \frac{42}{72}$ $\frac{5}{6} = \frac{5 \times 12}{6 \times 12} = \frac{60}{72}$

So, $\frac{42}{72}$ and $\frac{60}{72}$ is one way to name $\frac{7}{12}$ and $\frac{5}{6}$ with a common denominator.

Another Way

Think of a number that is a multiple of the other.

You know that 12 is a multiple of 6.

$\frac{5}{6} = \frac{5 \times 2}{6 \times 2} = \frac{10}{12}$

So, $\frac{7}{12}$ and $\frac{10}{12}$ is another way to name $\frac{7}{12}$ and $\frac{5}{6}$ with a common denominator.

Guided Practice

Do You Understand?

1. In the example on the previous page, how many twelfths are in each $\frac{1}{3}$ section of Tyrone's rectangle? How many twelfths are in each $\frac{1}{4}$ section of Sally's rectangle?

Do You Know How?

In **2** and **3**, find a common denominator for each pair of fractions.

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

8: 8 16 24
3: 3 6

$\frac{3 \times 3}{8 \times 3} = \frac{9}{24}$ $\frac{2 \times 8}{3 \times 8} = \frac{16}{24}$

24 $\frac{9}{24}, \frac{16}{24}$

$\frac{4 \times 2}{3 \times 2} = \frac{8}{6}$

6: 6 12
3: 3 6

6 $\frac{1}{6}, \frac{8}{6}$

Complete 5, 7, 10, 13 + 16

Independent Practice

In **4–11**, find a common denominator for each pair of fractions. Then write equivalent fractions with the common denominator.

4. $\frac{2}{5}$ and $\frac{1}{6}$

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

3: 3 6 9 12 15
5: 5 10 15 20

15, $\frac{5}{15}, \frac{12}{15}$

$\frac{1 \times 5}{3 \times 5} = \frac{5}{15}$ $\frac{4 \times 3}{5 \times 3} = \frac{12}{15}$

7. $\frac{3}{10}$ and $\frac{9}{8}$

10: 10 20 30 40 50
8: 8 16 24 32 40

40, $\frac{12}{40}, \frac{45}{40}$

$\frac{3 \times 4}{10 \times 4} = \frac{12}{40}$ $\frac{9 \times 5}{8 \times 5} = \frac{45}{40}$

8. $\frac{3}{7}$ and $\frac{1}{2}$

9. $\frac{5}{12}$ and $\frac{3}{5}$

10. $\frac{7}{9}$ and $\frac{2}{3}$

9: 9 18 27
3: 3 6 9

9, $\frac{7}{9}, \frac{6}{9}$

$\frac{2 \times 3}{3 \times 3} = \frac{6}{9}$

11. $\frac{3}{4}$ and $\frac{9}{20}$

*For another example, see Set B on page 445.

Math Practices and Problem Solving

12. **MP.3 Critique Reasoning** Explain any mistakes in the renaming of the fractions below. Show the correct renaming.

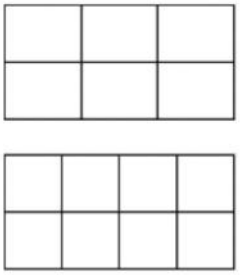
$\frac{3}{4} = \frac{9}{12}$ $\frac{2}{3} = \frac{6}{12}$

13. **Higher Order Thinking** For keeping business records, every three months of a year is called a quarter. How many months are equal to three-quarters of a year? Explain how you found your answer.

$\frac{3}{4} \times 3 = 9$ 12 months in a year

9 months are in $\frac{3}{4}$ of a year.

14. **MP.4 Model with Math** Nelda baked two kinds of pasta in pans. Each pan was the same size. She sliced one pan of pasta into 6 equal pieces. She sliced the other pan into 8 equal pieces. How can the pans of pasta now be sliced so that both pans have the same-sized pieces? Draw on the pictures to show your work. If Nelda has served 6 pieces from one pan so far, what fraction of one pan has she served?



15. **Number Sense** What is the price of premium gasoline rounded to the nearest dollar? rounded to the nearest dime? rounded to the nearest penny?

DATA

Gasoline Prices

Grade	Price (per gallon)
Regular	$4.199
Premium	$4.409
Diesel	$5.019

Common Core Assessment

16. Choose all the common denominators for $\frac{2}{3}$ and $\frac{3}{4}$.

- [ ] 8
- [ ] 12 X
- [ ] 16
- [ ] 36 X
- [ ] 48 X

3: 3 6 9 (12)
4: 4 8 (12)
12, 24, 36, 48

17. Choose all the common denominators for $\frac{11}{12}$ and $\frac{4}{5}$.

- [ ] 12
- [ ] 17
- [ ] 30
- [ ] 60
- [ ] 125