

# Divide Mixed Numbers

Lesson 2-4

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Class:** \_\_\_\_\_

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# Key Vocabulary Level 2 Standard

Picture first, then the word, then a plain-language meaning. Say each word out loud.



A mixed number consisting of the whole number 2 and the fraction 1/3. The 2 is in blue and the 1/3 is in red.

whole + fraction

$2 \frac{1}{3}$  means 2 wholes and  $\frac{1}{3}$  more — picture 2 full circles and  $\frac{1}{3}$  of another

## Mixed Number

Write the definition:

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An improper fraction with the numerator 11 and the denominator 4. The 11 is in red and the 4 is in blue. The text 'top bigger' is written in blue above the fraction line.

improper fraction

$\frac{7}{3}$  is improper because  $7 > 3$ . It equals  $2 \frac{1}{3}$  as a mixed number.

## Improper Fraction

Write the definition:

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units of length

$2 \frac{1}{3} \rightarrow$  multiply  $2 \times 3 = 6$ , add 1  $\rightarrow \frac{7}{3}$ . Same value, different form.

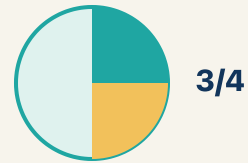
## Convert

Write the definition:

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$\frac{3}{4}$

$\frac{8}{6}$ : GCF is 2  $\rightarrow \frac{8 \div 2}{6 \div 2} = \frac{4}{3} = 1 \frac{1}{3}$

## Simplify

Write the definition:

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

**flip top and bottom**

*The reciprocal of  $\frac{3}{4}$  is  $\frac{4}{3}$ . To divide by  $\frac{3}{4}$ ,  
multiply by  $\frac{4}{3}$ .*

## **Reciprocal**

**Write the definition:**

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## Guided Notes

Level 2 Standard



### WHAT WE'RE LEARNING TODAY

I can divide mixed numbers by first changing them to improper fractions.



Fill in each blank as we go. Use the Word Bank to help you.



### WORD BANK – FILL EACH BLANK WITH THE BEST WORD

Mixed Number

Improper Fraction

Convert

Simplify

Reciprocal



Tap any word to see what it means and a picture.

1

A number with a whole number and a fraction, like  $2\frac{1}{3}$ , is a

2

A fraction whose numerator is greater than or equal to its denominator, like  $\frac{7}{3}$ , is an

3

Changing a mixed number into an improper fraction is to

it.

4

Writing a fraction in its smallest equal form is to  it.

5

To divide by a fraction, I multiply by its .



### Watch & Try – Worked Examples

See the notes in action: watch one worked all the way through, then try the next with the same steps.

 **I do – watch**

Follow each step as your teacher solves it.

**Problem:** What is  $1\frac{1}{2} \div \frac{3}{4}$ ?

- A. 2
- B.  $1\frac{1}{8}$
- C.  $\frac{3}{4}$
- D.  $\frac{9}{8}$

**Step 1**  $1\frac{1}{2} = \frac{3}{2}$ .

**Step 2** Then  $\frac{3}{2} \div \frac{3}{4} = \frac{3}{2} \times \frac{4}{3} = \frac{12}{6} = 2$ .


 **Answer:** A. 2

 **Try – put the steps in order**

Drag the cards (or use the ▲ ▼ buttons) to put the solution steps in the right order, then press **Check**.

Then  $\frac{3}{2} \div \frac{3}{4} = \frac{3}{2} \times \frac{4}{3} = \frac{12}{6} = 2$ .

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

 **We do – together**

Solve this one with your class using the same steps.

**Problem:** Convert  $3\frac{2}{5}$  to an improper fraction.

- A.  $\frac{17}{5}$
- B.  $\frac{15}{5}$
- C.  $\frac{6}{5}$
- D.  $\frac{32}{5}$

**Step 1** \_\_\_\_\_

**Step 2** \_\_\_\_\_

**Answer:** \_\_\_\_\_

 **You do — your turn**

Now try one on your own. Show every step.

**Problem:** What is  $2 \frac{1}{4} \div \frac{3}{4}$ ?

- A. 3
- B.  $1 \frac{1}{2}$
- C.  $\frac{9}{16}$
- D.  $2 \frac{1}{3}$

Show your work:

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## Try It

Solve on your own. Check the answer key when you are done.

**1. Mission 2: A surveillance route is 3 miles long, split into  $1\frac{1}{2}$ -mile patrol sections. How many sections are on the route?**

- A. 2
- B.  $1\frac{1}{2}$
- C.  $4\frac{1}{2}$
- D. 3

Show your work:

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**2. Mission 3: There are  $7\frac{1}{2}$  feet of caution tape to seal a crime scene. Each doorway needs  $2\frac{1}{2}$  feet. How many doorways can be sealed?**

- A. 3
- B. 5
- C.  $2\frac{1}{2}$
- D. 10

Show your work:

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## Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

**A detective has a rope that is  $5 \frac{1}{4}$  feet long. She needs to cut it into pieces that are each  $\frac{3}{4}$  foot for tying evidence tags. How many pieces can she cut? Write the equation, show each step (convert, keep-change-flip, multiply, simplify), and verify your answer.**

*Sentence starter: First I convert  $5 \frac{1}{4}$  to \_\_\_\_\_. Then I use KCF: \_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_. The answer is \_\_\_\_\_ pieces. I can verify because \_\_\_\_\_  $\times \frac{3}{4} = 5 \frac{1}{4}$ .*

Show your work:

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## Reflect — Exit Ticket

What is  $2 \frac{2}{3} \div \frac{2}{3}$ ?

- A. 4
- B.  $\frac{2}{3}$
- C.  $\frac{8}{3}$
- D.  $1 \frac{7}{9}$

Your answer:

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