Eureka Math

4th Grade
Module 5
Lesson 31

At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Icons

Read, Draw, Write

Learning Target

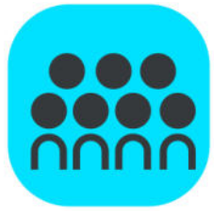
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

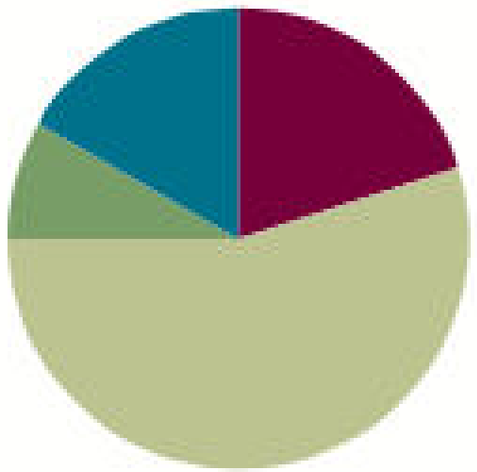
Small Group Time

Lesson 31

Objective: Add mixed numbers.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Add mixed numbers

Sprints!!

Compare fractions

26/6, How many ones are in 26 sixths?

Is 26/6 between two whole numbers?

Which ones?

26/6_____20/5

Compare these two numbers.

RDW

Application Problem

Marta has 2 meters 80 centimeters of cotton cloth and 3 meters 87 centimeters of linen cloth. What is the total length of both pieces of cloth?

Adding, combining like units

2 ⅛ + 1 ⅝
Let’s find the sum!

One way to solve this problem is to combine LIKE units!
What LIKE units do you see in this problem?
Let’s combine them.
2 + 1=3 and ⅛ + ⅝ = 6/8
What is 3+ 6/8?

Adding, combining like units

Is this a true statement? Be ready to explain why.

$2\frac{3}{4} + 3\frac{1}{4} = 2 + \frac{3}{4} + 3 + \frac{1}{4}$

Since this is a true statement, solve this problem with your shoulder partner.

Combining like units greater than one

$2\frac{5}{8} + 3\frac{5}{8}$

Is the sum of our fractional units going to be greater than 1? How do you know?

Let's add these together and talk about what we need to do next. Use the strategy of combining like units.

When I combined like units I ended up with 5 + 10/8. Can we leave it this way? Explain to your partner what you would do next.

Combining like units greater than one

$2\frac{5}{8} + 3\frac{5}{8}$

We solved the above problem using an ONLY numbers.
Let's see if we can solve it on a number line!!

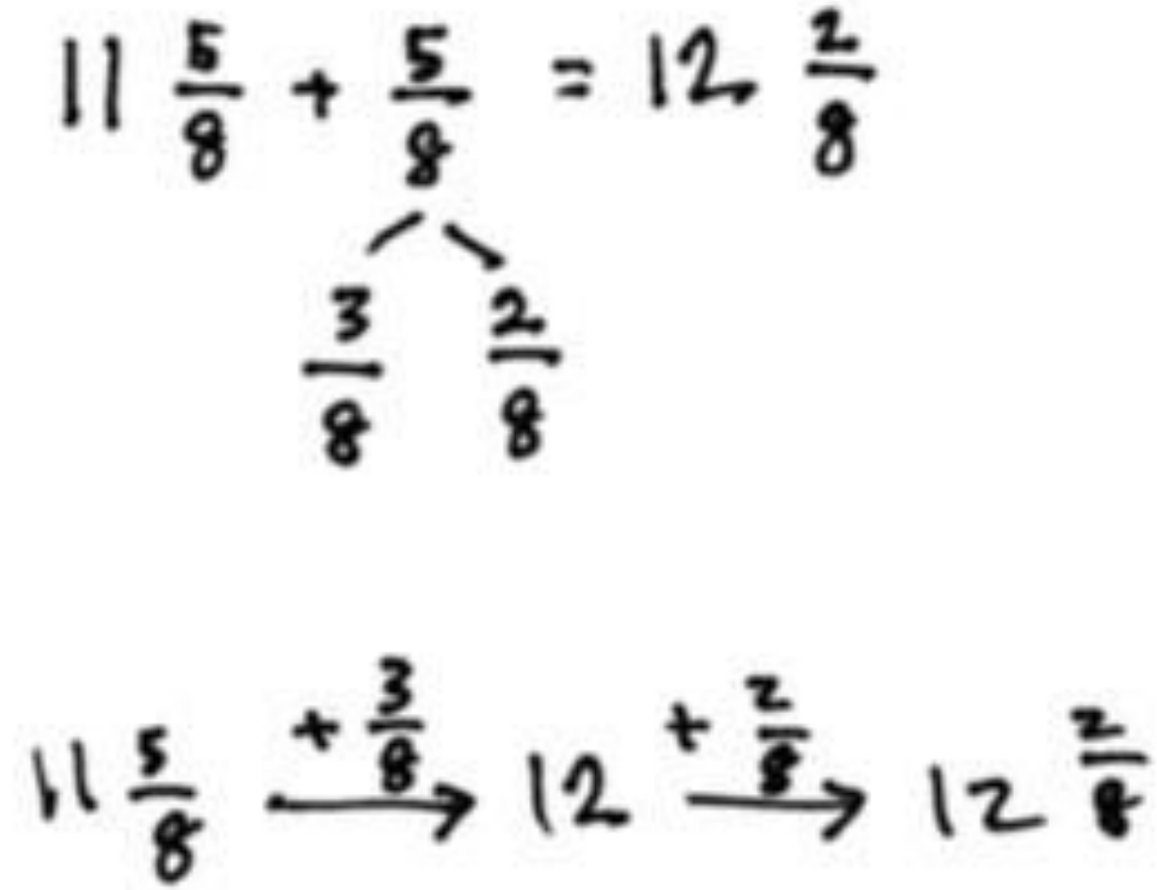
Combining like units, making 1 first

5 ⅝ + 6 ⅝
Let's start out by adding our ones first.
5+6=11
So now we have 11 ⅝ + ⅝
Do you see how we did that? Explain it to your group.
Now, look look at the fractions, how many eighths do we need to get ⅝ to a whole?
We can decompose the second ⅝ into 2/8 and ⅜.
We are able to take the ⅜ and make the ⅝ a whole.
Our new number sentence is 12 + 2/8.
We can add those together and 12 2/8.

Combining like units, making 1 first

5 ⅝ + 6 ⅝

Take a look at the graphic. This graphic shows the work we just did. Explain to your partner how we solved this problem.



Combining like units, making 1 first

Let’s practice!! After you solved it with numbers challenge yourself and represent it on a NUMBER LINE!!

Group problem: 3 ⅞+4 ⅜

Partner problem: 9 11/12+ 10 5/12

Individual problem: 5 ⅝+ 6 ⅝

Recording addition different ways

What do you notice between all of these methods?

$4\frac{7}{12} + 16\frac{9}{12} = 21\frac{4}{12}$

$4\frac{7}{12} + 16\frac{9}{12} = 20 + \frac{16}{12}$

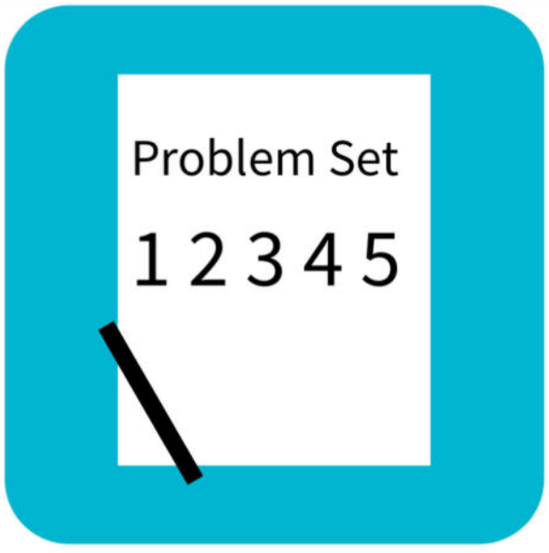
$= 20 + 1 + \frac{4}{12}$

$= 21\frac{4}{12}$

$4\frac{7}{12} + 16\frac{9}{12} = 20\frac{7}{12} + \frac{9}{12}$

$\frac{5}{12}$ $\frac{4}{12}$

$= 21\frac{4}{12}$

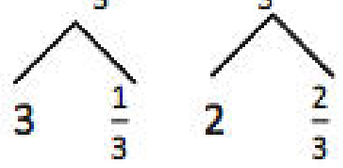


Problem Set

Name _____ Date _____

1. Solve.

a. $3\frac{1}{3} + 2\frac{2}{3} = 5 + \frac{3}{3} =$



Debrief

- Explain how decomposing mixed numbers helps you find their sum.
- Explain how you solved Problem 1(c).
- Explain the methods you chose for solving Problems 4(a), 4(b), and 4(c). Did you use the same methods as your partner?
- How is adding 4 tens 7 ones and 6 tens 9 ones like adding 4 ones 7 twelfths and 6 ones 9 twelfths? How is it different?
- If you were unsure of any answer on this Problem Set, what could you do to see if your answer is reasonable? Would drawing a picture or estimating the sum or difference be helpful?
- How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____ Date _____

Solve.

1. $2\frac{3}{8} + 1\frac{5}{8}$