# Eureka Math

## 4th Grade
## Module 7
## Lesson 6

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!

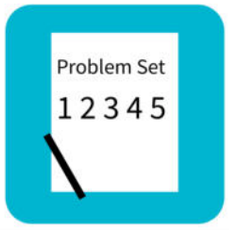
Directions for customizing presentations are available on the next slide.

# Icons


Read, Draw, Write

Learning Target

Personal White Board

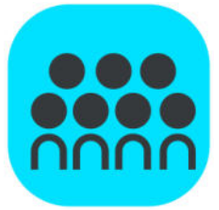



Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

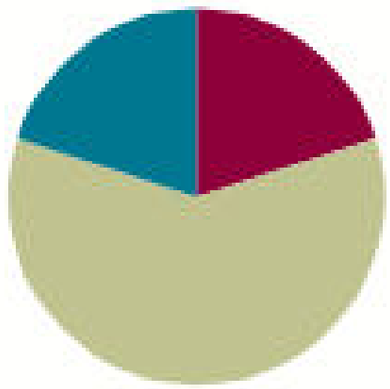
Small Group Time

# Lesson 6

Objective:  Solve problems involving mixed units of capacity.

**Suggested Lesson Structure**

| | |
|---|---|
| Fluency Practice | (12 minutes) |
| Concept Development | (36 minutes) |
| Student Debrief | (12 minutes) |
| **Total Time** | **(60 minutes)** |



I can solve problems involving mixed units of capacity.

# Add mixed numbers

3 fourths + 2 fourths=

Express 5 fourths as mixed units

3 fourths + 3 fourths=

Express 6 fourths as mixed units

# Convert capacity units

1 gallon=_____qts

1 gallon 1 quart=_____qts

2 gallons 3 quarts=_____qts

3 quarts 2 pints=_____pts

# Application Problem

No problem today!

# Add mixed units of capacity

Remember back in module 5 when we added mixed fractions.

What did we have to remember before we could add?

That’s right!!  We could ONLY add like units!

# Add mixed units of capacity

3 fourths + 2 fourths, can we add this right now?  How do you know?

What do we get?

YES!! 5 fourths, can we leave it like this? Why?

# Add mixed units of capacity

Let’s take a look at this problem.

2 quarts +  3 quarts=

Awesome!  5 quarts, but can we leave it as 5 quarts?

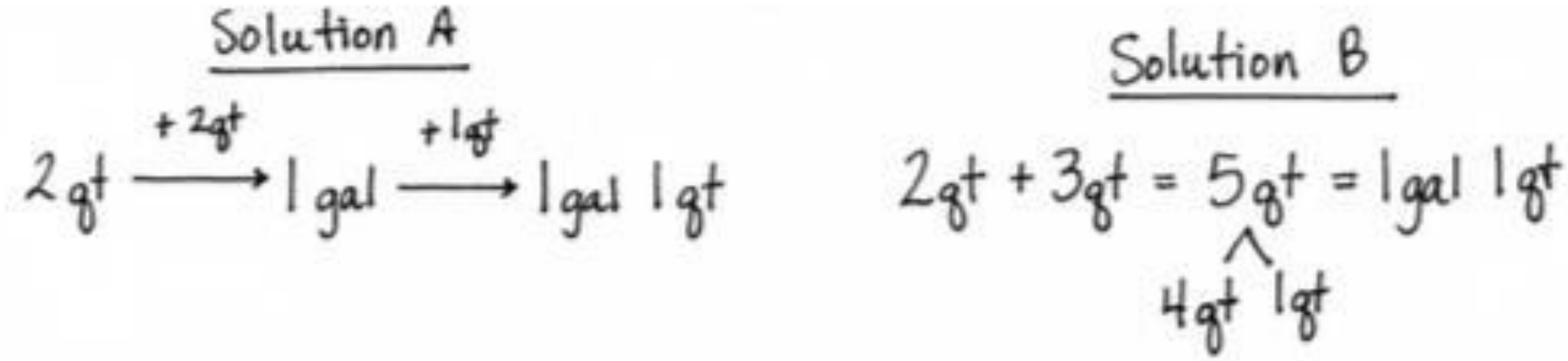
What do we have to do!?!?!

Talk about it with your group and find the answer.

Way to go!  How did you get your answer?

# Add mixed units of capacity

Let's take a look at these two solutions another student did.




How are these two methods the same?  How are they different?

# Add mixed units of capacity

Practice time!!

Group Problem: 3 quarts +  3 quarts

Partner Problem: 2 cups + 3 cups

Individual Problem: 3 pints + 4 pints

# Add mixed units of capacity

Let’s analyze this student’s work and how they solve

5 gallons 2 quarts + 3 quarts.

Solution C

5 gal 2 qt $\xrightarrow{+2\text{ qt}}$ 6 gal $\xrightarrow{+1\text{ qt}}$ 6 gal 1 qt

Solution D

5 gal 2 qt + 3 qt = 5 gal 5 qt = 6 gal 1 qt

1 gal 1 qt

# Add mixed units of capacity

Practice time!!

Group Problem: 3 gallons 1 quart + 3 quarts

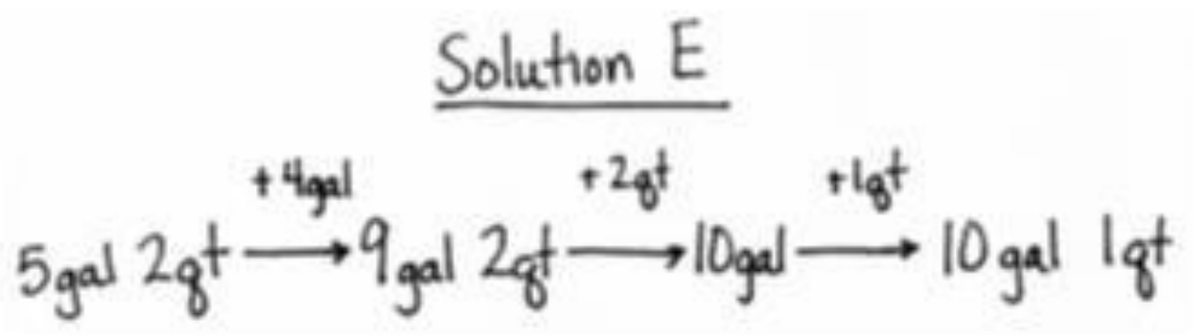
Partner Problem: 17 quarts 3 cups + 3 cups

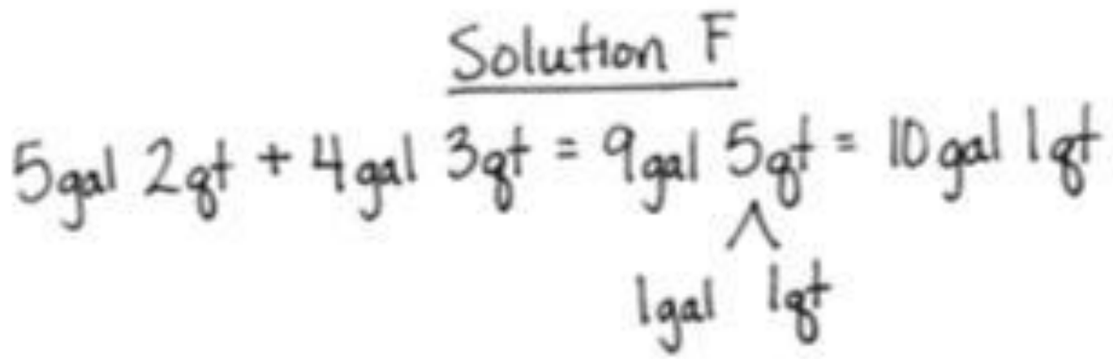
Individual Problem: 4 gallons 7 pints + 7 pints

# Add mixed units of capacity

Let’s analyze this student’s work and how they solve

5 gallons 2 quarts + 4 gallons 3 quarts



# Add mixed units of capacity

Practice time!!

Group Problem: 3 gallons 1 quart + 6 gallons 3 quarts

Partner Problem: 17 quarts 3 cups + 2 quarts 3 cups

Individual Problem: 4 gallons 7 pints + 10 gallons 7 pints

# Subtract mixed units of capacity

Think back to when we subtracted mixed units.
What did we have to do when we didn't have enough to subtract from. Like in 1- 3 fourths?

Let's practice again with 8 - 3 fourths.

# Add mixed units of capacity

Let's take a look at how this student is planning on solving the following problems.

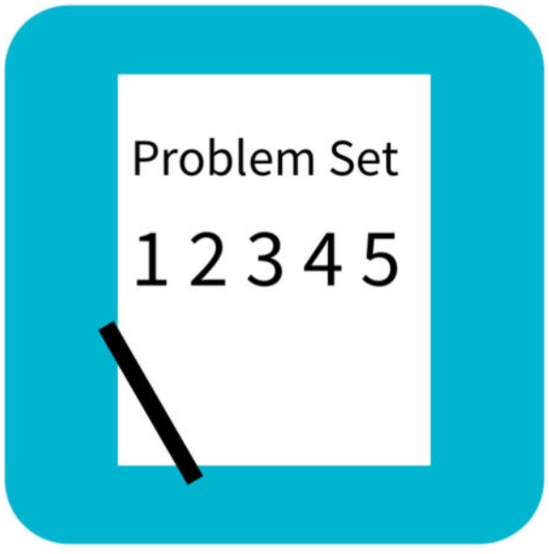
# Subtract mixed units of capacity

Practice time!!

Group Problem: 9 gallons 2 quart - 4 quarts

Partner Problem: 12 quarts 1 cups - 5 quarts 2 cups

Individual Problem: 6 gallons 3 pints - 2 gallons 7 pints




# Problem Set



Name _____ Date _____

1. Determine the following sums and differences. Show your work.

a. 3 qt + 1 qt = _____ gal

b. 2 gal 1 qt + 3 qt = _____ gal

# Debrief

- What pattern did you notice between Problems 2(a) and 2(b)?
- When adding mixed units, we used two different strategies: adding like units and counting up with the arrow way. Was one strategy more effective? Did you prefer one strategy to another? Why?
- Explain to your partner how you solved Problem 4(a). Which strategy did you use for each of the ingredients?
- What was similar about working with gallons and quarts and quarts and cups?
- How is adding $5\frac{3}{4} + 7\frac{3}{4}$ like solving 5 gallons 3 quarts + 7 gallons 3 quarts?
- How is subtracting $5\frac{1}{8} - 2\frac{7}{8}$ like solving 5 gallons 1 pint – 2 gallons 7 pints?
- Compare using compensation to solve 81 – 29 or $8\frac{1}{4} - 2\frac{3}{4}$ to using compensation to solve 8 gallons 1 quart – 2 gallons 3 quarts.

# Exit Ticket



Name _____ Date _____

1. Find the following sums and differences. Show your work.

   a. 7 gal 2 qt + 3 gal 3 qt = _____ gal _____ qt