



MATH NEWS

Grade 5 | Module 3 | Topic B | Making Like Units Pictorially

Welcome

This document is created to give parents and students a better understanding of the math concepts found in the Eureka Math (© 2013 Common Core, Inc.) that is also posted in the Engage New York material taught in the classroom. Grade 5 Module 3 of Eureka Math (Engage New York) covers Addition and Subtraction of Fractions. This newsletter will address making like units pictorially.

Objectives

- Add and subtract fractions with unlike units using the strategy of creating equivalent fractions.
- Add and subtract fractions with sums between 1 and 2.
- Solve two-step word problems.

Objectives

- Unit Fraction
- Simplest Form
- Equivalent Fraction
- Improper Fraction
- Mixed Number
- Associative Property

Online Practice

Visit www.zearn.com for extra practice as well!

Important Information

Things to Remember

Unit Fraction: A fraction whereby the numerator (the "top number") is 1. Examples: $\frac{1}{2}, \frac{1}{6}, \frac{1}{100}$

Improper Fraction: An improper fraction is a fraction where the numerator (the top number) is greater than or equal to the denominator (the bottom number).

Examples: $\frac{7}{2}$ (seven halves) and $\frac{5}{5}$ (five fifths)

Simplest Form (fraction): A fraction is in **simplest form** when the numerator and denominator only have 1 as their common factor.

Example: $\frac{2}{4}$ can be simplified to $\frac{1}{2}$ since 2 and 4 have a common factor of 2.

$\frac{1}{2}$ is in **simplest form** because the only common factor for 1 and 2 is 1.

Mixed Number: A **mixed number** is a whole number and a fraction combined into one "mixed" number. Example: $1\frac{1}{3}$

Equivalent Fraction: Fractions which have the same value, even though they may look different. Example: $\frac{1}{2}$ and $\frac{2}{4}$

Associative Property: Associative Property states that you can add or multiply regardless of how the numbers are grouped. By 'grouping' we mean where the parentheses are placed.

Example: $5 \times 7 \times 2 = (5 \times 2) \times 7$ or $5 \times (2 \times 7)$

Focus Area Example Problem

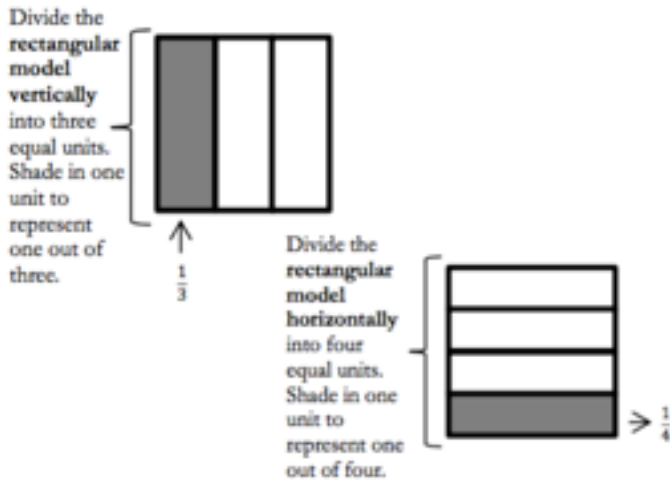
Problem 1: $\frac{1}{3} + \frac{1}{4} =$

Step 1: Ask yourself can the fraction one third be added to the fraction one fourth? No, because the units are not the same. We need to find like units.

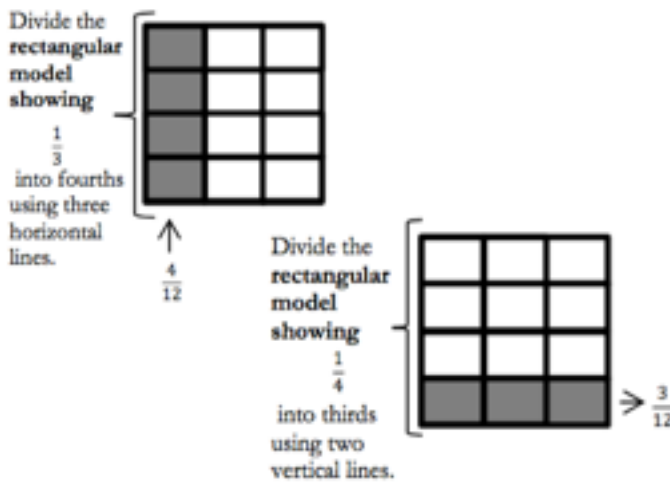
Step 2: Begin the process of finding like units (denominators) by drawing two rectangular models. Each **rectangular model** will represent a different unit fraction shown above.

Problem Continued on Page 2

Problem Continued from Page 1



Step 3: Have both rectangular models show the same size units.



Each **rectangular model** now has 12 units.

Step 4: Rename each fraction showing like units (denominator).

$\frac{1}{3} = \frac{4}{12}$ and $\frac{1}{4} = \frac{3}{12}$ are both **equivalent fractions**

Now, we can add the units.

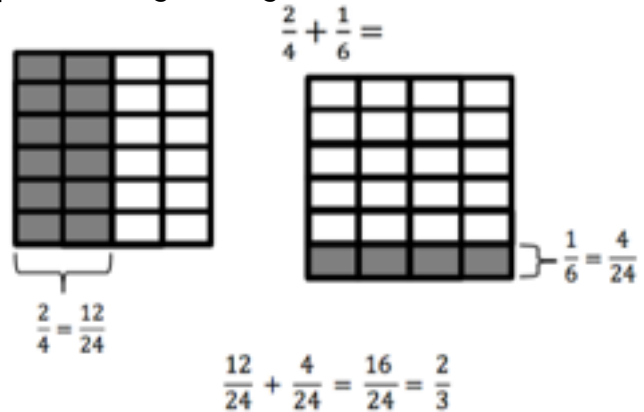
$$\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$$

Application Problem

Problem: Gabe ran $\frac{1}{3}$ miles on Monday and $\frac{1}{4}$ miles on Tuesday. How far did Gabe run on both days? Answer: $\frac{7}{12}$ miles. (*The steps above would be used to determine how far Gabe ran on both days.*)

Application Problems

Problem: For the following problem, draw a picture using rectangular models.



The fraction $\frac{16}{24}$ can be **simplified** to $\frac{2}{3}$. The only common factor for 2 and 3 is 1; therefore it is in **simplest form**.

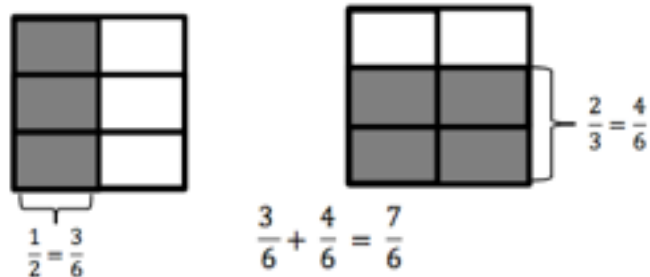
To find the simplest form we divide both the numerator and denominator by a common factor.

Example 1: $\frac{16}{24} \div \frac{2}{2} = \frac{8}{12} \div \frac{2}{2} = \frac{4}{6} \div \frac{2}{2} = \frac{2}{3}$

Example 2: $\frac{16}{24} \div \frac{4}{4} = \frac{4}{6} \div \frac{2}{2} = \frac{2}{3}$

Example 3: $\frac{16}{24} \div \frac{8}{8} = \frac{2}{3}$

Problem: Marco bought two pizzas for dinner. He ate $\frac{1}{2}$ of the pizza for dinner and $\frac{2}{3}$ for breakfast the next morning. Marco took the remaining pizza to school for lunch. How much total pizza did he eat for breakfast and lunch? How much pizza did Marco take for lunch?



$\frac{7}{6}$ is a **improper fraction**

$\frac{7}{6}$ is the same as $\frac{6}{6} + \frac{1}{6}$

$\frac{6}{6}$ is equal to a whole

Answer: Marco ate a total of one whole pizza and one-sixths of the second pizza for dinner and breakfast.

$1 + \frac{1}{6} = 1\frac{1}{6}$ } Mixed Number

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(Question 2): How much pizza did Marco take for lunch?

Strategy 1: $\frac{1}{6} + \underline{\quad} = 1$ whole pizza = $\frac{1}{6} + \frac{5}{6}$

Strategy 2: 1 whole pizza - $\frac{1}{6}$ pizza eaten = $\frac{5}{6}$

Answer: Marco took five-sixths of a pizza to school for lunch.

Solve the following problem using the **Associative**

Property.

$$1\frac{1}{4} - \frac{1}{2} =$$

$1\frac{1}{4}$ is the same as $1 + \frac{1}{4}$, therefore you can rewrite the problem using the **Associative Property.**

$$\left(1 + \frac{1}{4}\right) - \frac{1}{2} = \left(1 - \frac{1}{2}\right) + \frac{1}{4} = \frac{1}{2} + \frac{1}{4}$$

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



$$\frac{1}{2} = \frac{4}{8}$$



$$\frac{1}{4} = \frac{2}{8}$$

$$\frac{4}{8} + \frac{2}{8} = \frac{6+2}{8 \div 2} = \frac{3}{4}$$

Homework Help

Looking for assistance for to help complete nightly homework? Check out the following website to get digital copies of homework, as well as detailed explanations in video format:

http://www.oakdale.k12.ca.us/cms/page_view?d=x&piid=&vpid=1401784829350

Flipped Learning

A great way to review what your student is learning in the classroom. Visit the links to videos for each lesson in this topic.

Lesson 3: <https://www.youtube.com/watch?v=-69r1Ozn2fl>



Lesson 4: <https://www.youtube.com/watch?v=J46SY3ZPDdI>



Lesson 5: https://www.youtube.com/watch?v=A0IxYQ_3BcM



Lesson 6: <https://www.youtube.com/watch?v=2u6pZ1F0xAs>



Lesson 7: <https://www.youtube.com/watch?v=J4Xjc01h3YY>

