

# Eureka Math Parent Guide

A GUIDE TO SUPPORT PARENTS AS THEY WORK WITH THEIR STUDENTS IN MATH.

GRADE 5  
MODULE 3

## GRADE FOCUS

**Fifth grade mathematics is about (1) developing fluency with addition and subtraction of fractions, (2) understanding multiplication and division of fractions in limited cases, (3) extending division to two-digit divisors, (4) developing fluency with whole number and decimal operations to the hundredths, and (5) developing understanding of volume.**

- Module 1: Place Value and Decimal Fractions
- Module 2: Multi-Digit Whole Number and Decimal Fraction Operations
- » **Module 3: Addition and Subtraction of Fractions**
- Module 4: Multiplication and Division of Fractions and Decimal Fractions
- Module 5: Addition and Multiplication with Volume and Area
- Module 6: Problem Solving with the Coordinate Plane

## LET'S CHECK IT OUT!

## MODULE 3 FOCUS

In this 16-lesson unit, students build on earlier work with equivalent fractions and decimals to add and subtract fractions with unlike denominators. They will move from concrete examples (paper strips and number lines) to abstract skills (writing their own math sentences). By the end of the module, students will fluently work through multi-step word problems that contextualize their learning.

### MORE SPECIFICALLY, CHILDREN WILL LEARN HOW TO:

- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions that have like denominators. For example,  $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$ .
- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem.
- Use benchmark fractions and number sense of fractions to estimate and assess the reasonableness of answers. For example, recognize an incorrect result  $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$ , by observing that  $\frac{3}{7} < \frac{1}{2}$ .

## TOPIC OVERVIEW

Topics are the lessons within a module that help children master the skills above. Here are the lessons that will guide your child through Module 3:

- Topic A: Equivalent Fractions
- Topic B: Making Like Units Pictorially
- Topic C: Making Like Units Numerically
- Topic D: Further Applications

## WORDS TO KNOW

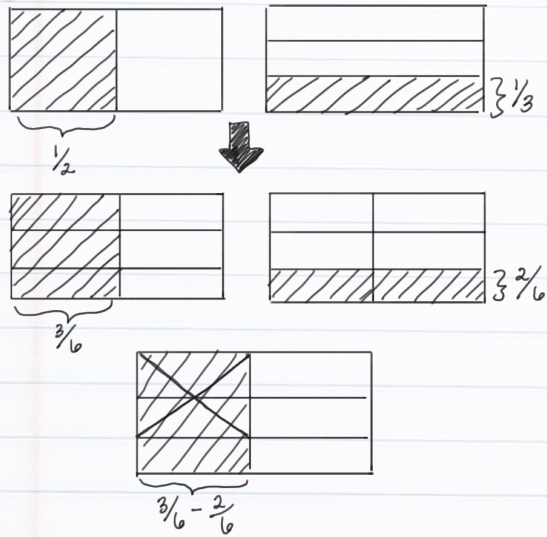
- **Denominator:** describes how many equal parts are in the whole, e.g. the 5 of  $\frac{3}{5}$  tells you the whole is divided into 5 equal parts.
- **Numerator:** shows how many fractional units there are, e.g. the 3 in  $\frac{3}{5}$  lets you know you have three units.
- **Benchmark Fraction:** a very familiar fraction that can be referred to in comparison questions, e.g.  $\frac{1}{2}$  is a benchmark fraction used when comparing  $\frac{1}{3}$  and  $\frac{3}{5}$ .
- **Like Denominators:** fractions with the same denominator, e.g.  $\frac{2}{3}$  and  $\frac{1}{3}$ .
- **Unlike Denominators:** fractions with different denominators, e.g.  $\frac{1}{8}$  and  $\frac{1}{7}$ .
- **Equivalent Fraction:** fractions that have the same value, though they may look different, e.g.  $\frac{3}{6}$  and  $\frac{1}{2}$ .
- **Fraction Greater than or equal to 1:** e.g.  $\frac{7}{3}$  or  $2\frac{1}{3}$

# SAMPLE PROBLEMS

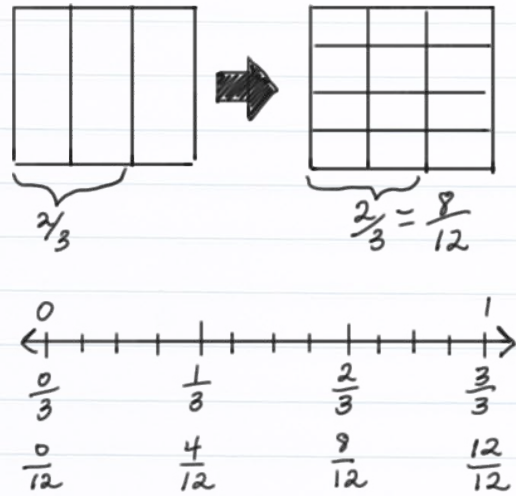
## SAMPLE 1

Subtraction with unlike denominators:

$$\frac{1}{2} - \frac{1}{3} = \frac{3}{6} - \frac{2}{6} = \frac{1}{6}$$

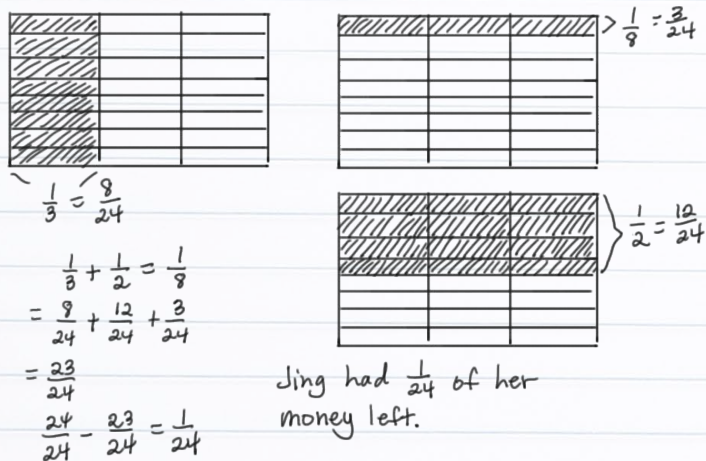


Both the area model and number line above show the equivalent fractions  $\frac{2}{3}$  and  $\frac{8}{12}$ .



## SAMPLE 2

Jing spent  $\frac{1}{3}$  of her money on a pack of pens,  $\frac{1}{2}$  of her money on a pack of markers, and  $\frac{1}{8}$  of her money on a pack of pencils. What fraction of her money is left?



$$\frac{1}{3} = \frac{8}{24}$$

$$\frac{1}{3} + \frac{1}{2} = \frac{1}{8}$$

$$= \frac{8}{24} + \frac{12}{24} + \frac{3}{24}$$

$$= \frac{23}{24}$$

$$\frac{24}{24} - \frac{23}{24} = \frac{1}{24}$$

Jing had  $\frac{1}{24}$  of her money left.

# HOW YOU CAN HELP AT HOME

- Look for opportunities in daily life to discuss fractional parts of a whole, e.g. pieces of pizza, parts of an hour, distances to familiar places.
- Continue to practice and review multiplication and division math facts — this greatly supports work with fractions!