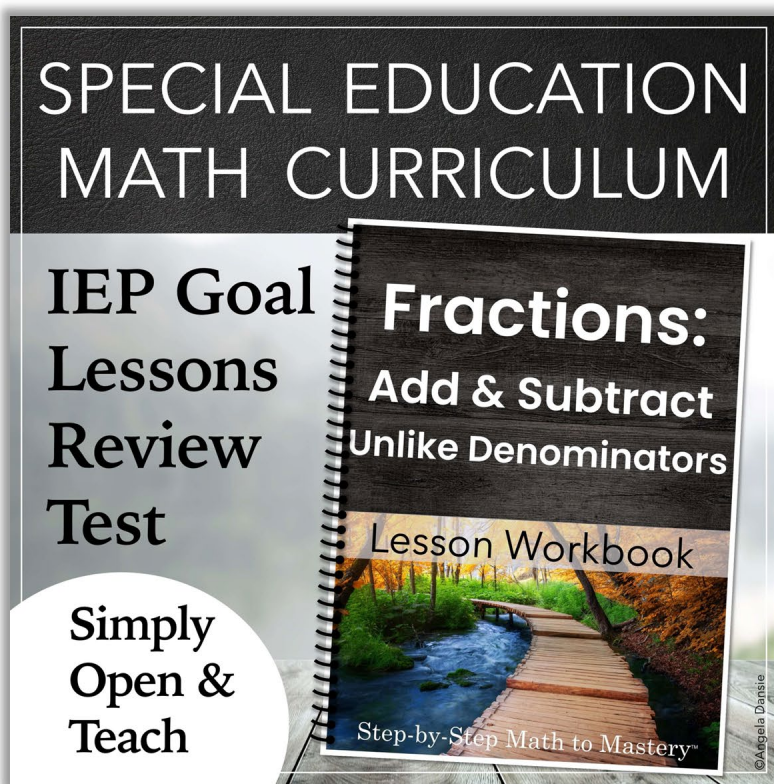


— Step-by-Step —  
**Math to Mastery**  
FOR SPECIAL EDUCATION & INTERVENTION

*Preview &  
Sample Lesson*



# Hello!

I'm excited to show you my updated Step-by-Step Math to Mastery™ resources!

This preview will answer several frequently asked questions and give you a chance to see a sample lesson straight from the workbook.

If you have more questions or would like to request a product catalog don't hesitate to email me.

Angela Dansie

angela@mathtomastery.com

[Skip to Sample Lesson](#)

## *Have a question? Click to the Answer*

Are these resources standards-based? Evidence-based? [ANSWER](#)

Will they be a good fit for my students? [ANSWER](#)

Do students respond well to these lessons? [ANSWER](#)

How do you teach a lesson? [ANSWER](#)

How do you prep and organize materials? [ANSWER](#)

What is the recommended sequence of workbooks? [ANSWER](#)

Can I share this with another teacher? [ANSWER](#)

How can I get a discount? [ANSWER](#)

# *Standards-Based*

K-5<sup>th</sup> grade standards addressing numbers, addition, subtraction, multiplication, division, fractions, and decimals are covered.

The lesson workbooks are linked to Common Core State Standards so the standards can be referenced when writing IEP goals. Not every math standard is taught. These resources are focused on mastering essential foundational skills in a straightforward way.

An example IEP goal and objectives are included in each lesson workbook, along with the corresponding standard(s).

# *Evidence-Based*

High-Leverage Practices in Special Education found in Step-by-Step Math to Mastery materials include:

- #12 Systematically Design Instruction Towards Learning Goals
- #14 Use Cognitive and Metacognitive Strategies (Schema Instruction)
- #15 Provide Scaffolded Supports
- #16 Use Explicit Instruction

Teacher-directed instruction is explicit and systematic. Skills are broken down into small steps, reducing cognitive load. Lessons progress incrementally from basic to more complex procedures. Clear, precise language is used so teachers and paraeducators can explain model problems simply and consistently.

Word problems are taught using schema-based instruction.

# Special Learners

Step-by-Step Math to Mastery™ resources were created for students who need extra support, preferably in a small group or 1-on-1 setting. These lessons have been used in special education classrooms, intervention groups, Title 1 and English language learner programs, after school tutoring, and in homeschools.

Many math books simultaneously introduce two or more problem-solving strategies. This often confuses struggling students. In these lessons, only one strategy is taught at a time for students to master before moving to the next step.

These lessons could benefit all students, especially students who have:

- **Attention difficulties**—minimal visual clutter, short lessons, simple instructions, clear stopping point
- **Learning disabilities**—objectives are carefully sequenced in small chunks with explicit step-by-step instruction and many practice repetitions
- **Slower processing speed**—accuracy is emphasized rather than speed; mastering a skill will increase automaticity
- **Language difficulties**—  
Receptive Language: Teacher directions and vocabulary are simple, consistent, and concise.  
Expressive Language: Rather than asking students with limited verbal skills to ‘explain their thinking’, teach them how to state the steps they are following.
- **Executive functioning difficulties**—clear expectations and predictable routine, organized layout with white space and fewer problems per page
- **Fine motor issues**—larger font and space for writing answers; students are not asked to write many words or sentences

# Student Success

I get feedback from teachers and parents of students in elementary, middle school, and high school. What I love most is hearing about a student's success.

I am using several of these units with a couple of students who experienced prenatal alcohol and drug exposure . . . I **have seen them go from being completely overwhelmed and shut down in math to being excited to show me their progress each day.** I cannot recommend these highly enough!  
–Melissa H.

This is hands down the best math resource I have found. My daughter wasn't retaining info from our previous curriculum so we were in need of a new approach. She has actually **retained what she is learning** with this. –Shelly G.

I've been looking for a good math intervention program for my students and this one is awesome! **My students are making so many gains! One of my students felt so successful that he asked for homework!** I liked this so much I got the entire program!  
–Jacqueline R.

This resource is amazing!! I have used it with my 3<sup>rd</sup> grade math intervention groups and my students are actually adding and subtracting with borrowing and regrouping. **I have seen such a huge growth** since using these pages!  
–Kelsie L.

I love the **confidence** this gives my students! –Kate S.

Amazing! Used in a resource room and students and their parents kept commenting how they wished the classroom teacher used this program. Highly recommend! –Jennifer M.

**My students really enjoy this math.** It is easier for them to understand than the curriculum the school is using. They need something very clear and straightforward and this is IT! –Tracey M.

I love the approach and routine to your math units and the multiplication was no exception! **Students with Intellectual Disability were multiplying with pride and parents were very tickled!** Great evidenced-based structure.  
–Melissa G.

Simple steps and explanations **helped my ELL students tremendously.** –L. G.

**My intervention students have blossomed** with using this resource. It is extremely thorough and guides the students through scaffolded steps to achieve competency. Couldn't ask for a better resource! –Lindsey D.

My 4th and 5th grader students with learning disabilities are **finally feeling successful in math!** –Kimberly D.

I used this resource to teach a child from Somalia how to regroup with subtraction. The explicit instruction was instrumental in helping the child conceptualize regrouping. I also appreciate the numerous sheets available for additional practice. Thank you! –Baudelina A.

This was exactly what I was going for. I've been using it all school-year and **I've never seen my kids make progress like they have.** –Danielle D.

# Lesson Presentation

There is not just one right way to use the workbooks. They can be adapted to your student needs, your setting, and time constraints.

General guidelines for how to present model problems and prompt student responses are found on the next page.

*Here is how I use the lesson workbooks:*

My setting is a small group pull-out at the elementary level (mild/moderate). Students sit at a kidney table facing me and a white board behind me.

## **Warm-up:**

- We begin with a number sense & place value warm-up.
- This may include skip counting, missing number flashcards, and a page from a daily practice workbook.

## **Model: 5 minutes**

- I state the lesson objective and write one model problem on the white board at a time and think out loud while I demonstrate each step.
- I ask students to repeat and recite the steps, rules, and vocabulary with me.

## **Guided Practice: 10 minutes**

- During guided practice I continue working problems on the board. I ask students for the next step as if they are coaching me through the problems.
- When they are answering confidently, I often have a student come to the board to work a problem. I've found students enjoy the chance to "be the teacher" and it gives the others a chance to practice being a respectful audience.

## **Independent Practice: 15 minutes (more or less)**

- Students spread out and go to their individual tables/desks where they can focus quietly during this time.
- They work at their own pace, quietly, and raise their hands when finished so I can quickly check their work and give immediate feedback.
- Quick finishers might be given a set of fact flashcards or a fluency timing to practice while the others finish.

When I have a group that is answering accurately and flying at a faster pace, I reduce the number of practice problems and may do two lessons a day.

If we have time, we do a few word problems together or practice telling time or counting money—whatever I'd like to spend a few minutes reviewing.

# Keep Students Engaged

"A responding student is a learning student."

*Model* each skill step-by-step and think out loud while you demonstrate. Give many opportunities for each student to respond during *guided practice*. Don't move to *independent practice* until students are confident with the skill.

**Model:** Teacher solves problems on the white board or on the paper so everyone can see. Talk through the problem out loud, step by step.

I look at ...

I think ...

I see that ...

I write ...

I remember ...

I say ...

Have students recite the steps and any new rules or vocabulary as you work.

"I add the ones column. What do I do?"

"The rule is ... Say it with me ..."

"(Vocab word) means ... Say that with me ..."

**Guided Practice:** Teacher and students work problems together. Solve together on the white board, projector or teacher's paper.

1. Start → Teacher models correct response before asking a question  
"First we look at the sign. What do we do first, everyone?"
2. Fade to → Whole group choral responses  
"What is the next step, everyone?"
3. Fade to → Individual responses  
"What numbers are in the tens column, ... Andrew?"
4. Fade to → Solve on individual papers at the same time  
Individual responses as you go through the steps together and students write on their papers  
"Count back, ... Hailey." "What is the difference, ... Max?" "Everyone write it."

More Options →

- Invite students to come to the board and demonstrate solving problems and talking through the steps. Give each student a chance to be the "teacher" while others practice being a respectful audience.
- Pair students up with a partner. Both solve the same problem, then they quickly compare answers. Or they may take turns demonstrating how to solve a problem while the other watches and checks the answer.

**Independent Practice:** Students work quietly at their own pace. They may ask for help if needed, but encourage and praise independent work.

# Easy to Teach

I know how many things special education teachers have on their plates. It is important to me to make these resources as simple to use as possible.

"I was so scared to buy this [K-5 Math Bundle] because of the price but after 2 months it has **easily saved me that much time** spent after my contracted hours putting things together. I can just **hand it to my paras and they can teach the students without me micromanaging.**" –Whitney H.

The practicality of these units is off the charts!!! They make math time **so much easier for me to plan!!**  
–Janelle M.

As a special ed teacher who provides push-in support to students at a variety of levels, your math interventions have been a **lifesaver** this year! I'm able to pinpoint where to start my kids, can **easily align it to the standards**, and I don't end up spending hours sifting through websites online trying to find math work that will fit my kids' needs. Thank you! –Kimberly D.

This is a **godsend for teachers who have to program for a wide range of abilities, simultaneously.** –Juliana R.

I love all of your bundles. They **make doing math a breeze** with my kiddos. It used to take me hours to prep and think of what to do – because I have **four different levels in my classroom**. Now I just follow your curriculum for each different level. Thanks for your great stuff. –Marci G.

This resource is **easy to use for my students and paras.** Thanks! –Rachel W.

I was looking for a resource for my 1st and 2nd grade resource room. General education materials made teaching math cumbersome. I felt like I spent more time teaching the various components of the program and teaching math was secondary. This is just what I needed to **make math manageable** for my special learners. I love that examples are concrete and instruction is direct. Thank you so much!  
–Sherri H.

This is a great resource for math rotations. I teach 4-8 AU/ED/ID in a self-contained classroom in a public separate school. My **capable para is able to implement this easily and it is effective** in teaching the students.  
–Emily S.

This is an excellent resource for those self-contained special education teachers that have to reinvent the wheel to put together a curriculum to meet the needs of their students that are not low enough to take the alternate assessment.. –Success Beyond the Box Teaching Materials

I can't say enough about this resource. Best I've ever bought from TPT. I have four grades in my classroom, at the same time. **This makes math time stress free, while everyone works on what they need to target.** Thank you!  
–Everyday I'm Teaching It

It works perfect for having a para work with the student. –Jennifer B.



# Prep & Organize

Once you have decided which lessons to teach, you may want to print and bind individual student workbooks.

1. Print the student booklet cover onto colored cardstock for a bit of durability
2. Print the lesson pages double-sided. Black & white, no color ink needed.
3. Bind the workbook together using what you have (staple, spiral binding, three-hole punched in a binder, or with binder rings)

In my classroom . . .

- I would plan what I would teach the coming month and spend an hour of my prep time printing and assembling student workbooks.
- The method I used was a double-hole-punch at the top, fastening booklets together with two 1" binder rings. I fastened workbooks at the top to avoid anything on the sides interfering with handwriting.
- Each math group had a separate Sterilite™ bin to store the workbooks in as well as any flashcards or base ten blocks or other manipulatives.
- After students finished a workbook I would take the binder rings out and staple the book to send home. Then I re-used the binder rings in the next workbook.

I know these lessons are a lot of pages, and it can be a concern when you are limited in the number of pages you may print and copy. If you live in an area with a print shop it may be worth looking into having them printed there if your school will reimburse you.

Printed coil-bound workbooks are available at [mathtomastery.com](http://mathtomastery.com) so you can save your prep time for other things and have professionally printed workbooks delivered to your door. Just another option to consider!

# Suggested Sequence

## Placement Test

Visit [mathtomastery.com](http://mathtomastery.com) to download a free placement test.

## Step-by-Step Math to Mastery™ Lesson Workbook Sequence

### *Basic Addition and Subtraction*

- 1. Addition and Subtraction: Numbers to 10
- 2. Addition and Subtraction: Word Problems
- 3. Addition and Subtraction: Three Addends and Teen Numbers
- 4. Addition and Subtraction: Fact Families, Missing Addends, Making Ten

### *Multi-Digit Addition and Subtraction*

- 5. Addition: Two- Three- and Four-Digit Numbers
- 6. Subtraction: Two- Three- and Four-Digit Numbers

### *Basic Multiplication and Division*

- 7. Multiplication: Concepts and Factors to 10
- 8. Division: Concepts and Divisors to 10
- 9. Multiply & Divide: Word Problems, Missing Factors, Fact Families

### *Multi-Digit Multiplication and Division*

- 10. Multiplication: One-Digit by Multi-Digit Factors
- 11. Multiplication: Multi-Digit Factors and Distributive Property
- 12. Division: Long Division with One-Digit Divisors
- 13. Division: Long Division with Two-Digit Divisors

### *Fractions*

- 14. Fractions: Basic Concepts
- 15. Fractions: Representing Fractions on a Number Line
- 16. Fractions: Add and Subtract Like Denominators
- 17. Fractions: Multiply Fractions and Convert to Mixed Numbers
- 18. Fractions: Add and Subtract Unlike Denominators
- 19. Fractions: Divide and Simplify Fractions

### *Decimals*

- 20. Decimals: Read, Write, Compare and Round
- 21. Decimals: Add and Subtract, Multiply and Divide
- 22. Decimals: Convert Between Percent, Decimals, and Fractions

# *Suggested Sequence*

## Supporting Resources

### *Number Sense & Place Value*

- Numbers 0 to 20 Count, Read, & Write Numbers
- Numbers 1 to 120 Place Value & Number Sense Daily Practice
- Numbers 120 to 999 Place Value & Number Sense Daily Practice
- Hundreds: Expanded Form, Comparing, & Rounding Off
- Thousands: Expanded Form, Comparing, & Rounding Off

### *Fact Fluency*

- Addition & Subtraction Timings, Flashcards & Games
- Multiplication & Division Timings, Flashcards & Games

### *Other*

- Telling Time to the Nearest 5 Minutes
- Counting Money: Coins and Dollar Bills
- Shapes: Flat and Solid Practice Sheets

These resources may be used alone or with the computation lesson workbooks on the previous page.

Number sense and place value practice sheets are a great daily warm-up routine or entrance activity.

Fact fluency timings: Addition timings may be started after students can add sums to 10. Multiplication timings can begin after students have learned to multiply by 5's, 2's, and 3's.

Telling time and counting money may be taught any time after students are confident skip counting by 5's.

# Terms of Use

## — Step-by-Step — **Math to Mastery**

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### Contact Information

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I appreciate your feedback. I love to hear about your students' experiences and progress. You can contact me with comments or questions by emailing [angela@mathtomastery.com](mailto:angela@mathtomastery.com). I do my best to provide error-free materials, but if you find a typo feel free to email and tell me so I can quickly correct it. Thank you for your support!

# How to Save

Bundle resources and save at least 20%.

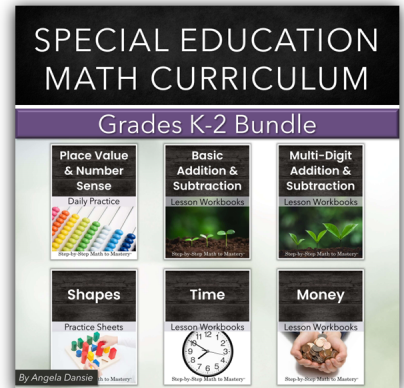
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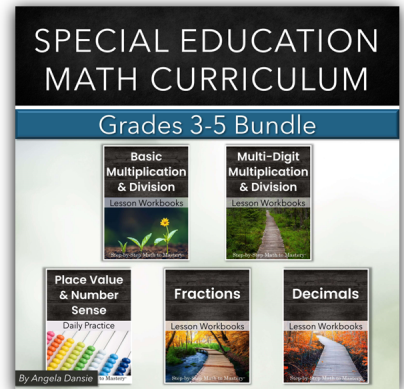
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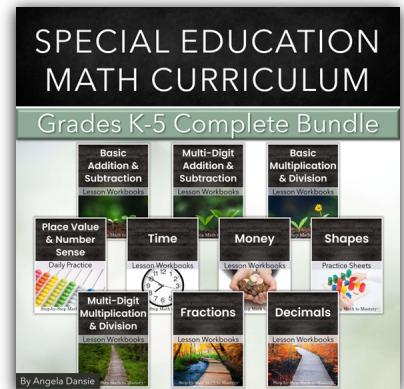
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For school district orders or large numbers of licenses, please see the product catalog or email me for a more personalized quote. [angela@mathtomastery.com](mailto:angela@mathtomastery.com)

# Sample Lesson

In this sample you will see:

- Table of Contents
- Example IEP Goal & Objectives
- Overview & Suggestions for Use
- 3 Lessons

A few things to notice as you look at the lesson . . .

Consistent & Predictable Format:

- “I Can” statements at the top of each page state lesson objective
- Model (I do), Guided Practice (We do), Independent Practice (You do)
- Uncluttered. White space and fewer problems on each page

Open and Teach. Paraeducator-Friendly.

- There is no separate lesson plan or teacher manual. The lesson workbook contains all that is needed for both the student and teacher.
- Steps to follow are printed next to each model. These written steps can be used to help the teacher “think out loud” while demonstrating.
- This makes it easy to give to a paraeducator to use. S/he doesn’t need a detailed script because the lessons are formatted to be predictable and simple. Once familiar with the format, adjustments can easily be made to the number of practice repetitions each student needs.

On some pages there may be quite a bit of text. Please realize that the written step-by-step instructions on each page are to help the teacher be clear and consistent during modeling and guided practice, not for the students to read and make sense of independently.

# Step-by-Step Math to Mastery™

## Fractions:

### Add & Subtract Unlike Denominators

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SAMPLE

# Step-by-Step Math to Mastery™

## Fractions:

### Add & Subtract Unlike Denominators

SAMPLE

*Table of Contents:*

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# Add and Subtract Unlike Fractions Standards & IEP Goals

## Fourth Grade CCSS.MATH.CONTENT.4NF.A.2

Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as  $\frac{1}{2}$ . . . . Record the results of comparisons with symbols  $>$ ,  $=$  or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.

## Fifth Grade CCSS.MATH.CONTENT.5NF.A.1

Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

## Fifth Grade CCSS.MATH.CONTENT.5NF.A.2

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 . . .

## IEP Goal Example: **Equivalent Fractions**

By (month/year), when given a fraction, student will write an equivalent fraction with a larger denominator with at least 85% accuracy over 3 trials. Progress will be monitored using classroom-based assessments.

### Objectives:

- Recognize when fractions are equivalent, using pictures and number lines
- Use pictures and number lines to write equivalent fractions
- Represent equivalent fractions by shading pictures and marking number lines
- Use pictures and number lines to find an equivalent fraction
- Understand that multiplying by a fraction equal to one will yield an equivalent fraction
- Use parentheses to multiply fractions
- Multiply to find an equivalent fraction with a larger denominator
- Set up the equation to find an equivalent fraction

# Add and Subtract Unlike Fractions

## Standards & IEP Goals

IEP Goal Example:

By (month/year), when adding and subtracting fractions with unlike denominators, student will write the (unreduced) answer with at least 85% accuracy over 3 trials. Progress will be monitored using classroom-based assessments.

Objectives:

- Find common denominators and equivalent fractions
- Add and subtract fractions with unlike denominators
- Compare fractions with unlike denominators
- Change whole numbers to fractions
- Change mixed numbers to improper fractions
- Add and subtract mixed numbers with unlike denominators
- Solve word problems by adding and subtracting unlike fractions and mixed numbers

# Step-by-Step Math to Mastery™

## Fractions:

### Add and Subtract Unlike Denominators

#### *Overview and Suggestions for Use:*

##### Equivalent Fractions Lessons

These lessons teach students to rewrite fractions as equivalent fractions with larger denominators. A general pre-skill for rewriting fractions is a knowledge of basic multiplication and division facts. Students need to be able to quickly identify missing factors in single-digit multiplication problems before completing these lessons.

Lessons begin by teaching the concept of equivalency. It is vital that students understand this concept before moving on to the computation lessons. The concept of equivalency is taught with simplified language to make it accessible to more students.

The lessons in this workbook build upon skills gained in previous lessons. Students need to master the pre-skills taught in the previous fractions workbooks before equivalency problems are introduced:

1. Knowledge of terms “numerator” and “denominator”
2. Can multiply fractions
3. Can construct a fraction that equals one whole
4. Can find the missing factor in a multiplication problem (3 times what equals 12?)

##### Add & Subtract Unlike Fractions Lessons

The first part in this section teaches adding and subtracting unlike fractions. The second part teaches adding and subtracting mixed numbers with unlike denominators. This is a complicated process with lots of steps—basically a culmination of all of the math computation skills students have learned thus far. Students need to be able to add, subtract, multiply, and divide multi-digit numbers. It is imperative that students have also mastered equivalent fractions before proceeding to these lessons.

After solving mixed number problems, students are asked to convert improper fractions to mixed numbers for their final answer (this skill was taught in *Multiplying Fractions*). They are NOT expected to reduce their answers. Reducing fractions will be introduced in future lessons.

# Step-by-Step Math to Mastery™

## Fractions:

### Add and Subtract Unlike Denominators

#### *Overview and Suggestions for Use:*

##### Common Denominator

You'll notice that lessons teach how to find a common denominator, but not necessarily the lowest common denominator. If you choose to teach how to find the least common denominator, the strategy I recommend is: Skip count and write the multiples of each denominator on the board, then students can visually find the least common multiple. This strategy is only practical for small numbers (denominators less than 10).

The strategy used in this workbook (equivalent fractions strategy) may require more reducing/simplifying later, but it is a reliable strategy that can be used with larger numbers.

##### Converting Whole Numbers and Mixed Numbers to Improper Fractions

This skill is first introduced with pictures to build conceptual understanding. Then students learn the algorithm.

##### Adding and Subtracting Mixed Numbers

There are different strategies that could be used depending on the type of problem. For instance, one might teach students how to rename (borrow) when subtracting a mixed number from a whole number. I've found, though, that my students do best with a single strategy that will work with both addition and subtraction of mixed numbers. This is why I've chosen to carry the equivalent fraction strategy throughout this workbook. There is no instruction on borrowing or carrying with fractions.

##### Comparing Unlike Fractions

There is one lesson sandwiched in the middle of this workbook (lesson 5) that is a "bonus". Students use the same strategies they learned to add and subtract fractions in order to compare unlike fractions. There is no review or test for this skill, but there is plenty of practice.

# Step-by-Step Math to Mastery™

## Fractions:

### Add and Subtract Unlike Denominators

#### *Overview and Suggestions for Use:*

##### Word Problems

Lastly, there are 20 word problems included. Ten word problems for adding and subtracting unlike fractions, and 10 for adding and subtracting mixed numbers. These are meant to be used as extra practice. You may choose to do them all before the review and test, or you could save some for intermittent review during the weeks following the test.

##### Workspace

You might wonder why I formatted some lessons with only one problem per page. Some students don't need this much organization and white space, but many do. When first learning this skill it is necessary to make each step visible and explicit. Students make fewer mistakes if they have a clearly structured, uncrowded workspace. This also makes it easier for the teacher to pinpoint where errors occur and the steps that need more instruction.

Typical worksheets use larger numbers and give very little workspace (or require students to use a separate scratch paper to solve problems). I've created these lessons using smaller numbers to make computation more manageable while students are learning the steps. There is plenty of structured workspace with steps clearly delineated. You might choose to make showing their work in the workspace optional, depending on your students' level. Once students are comfortable solving problems with these supports, they may graduate to the more difficult worksheets out there with larger numbers and undefined workspace.

For those who have downloaded this workbook, if you want to reduce the number of printed pages, you may use the blank templates in Appendix A. Print the template, laminate it, then have students solve problems using an erasable marker.

SAMPLE

Step-by-Step

Math to Mastery

Lesson Workbook

SAMPLE

# Add & Subtract

# Fractions

- SAMPLE
- Equivalent Fractions
  - + and – Unlike Fractions
  - + and – Mixed Numbers

SAMPLE

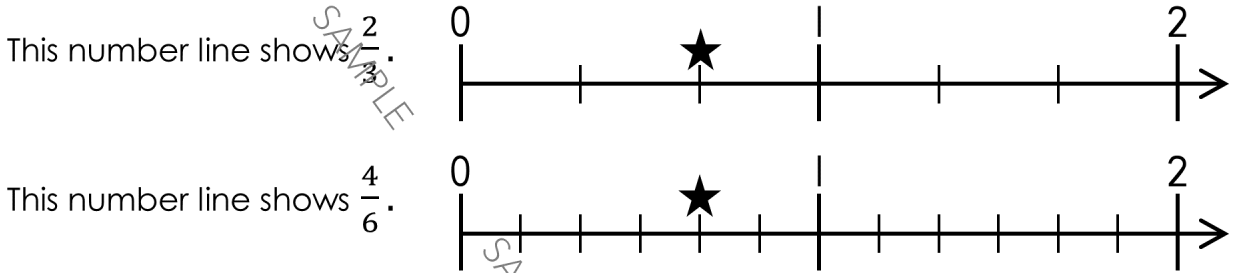
Name \_\_\_\_\_

# I Can Tell When Fractions are Equivalent (with number lines)

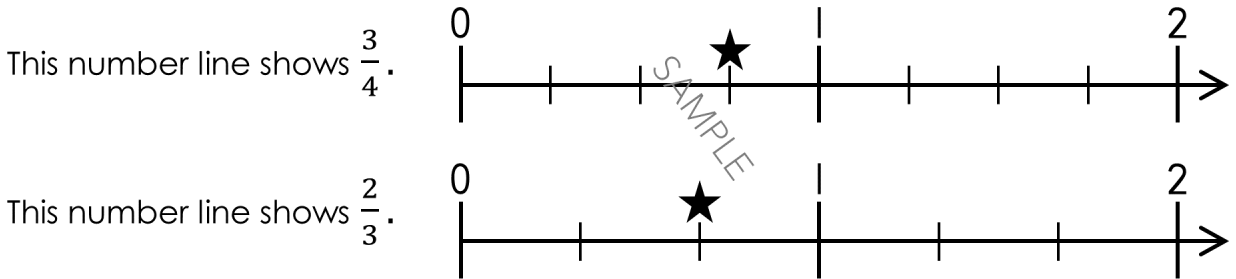
## Vocabulary

Equivalent Fractions: Fractions are equivalent when they show the same amounts. Equivalent means equal.

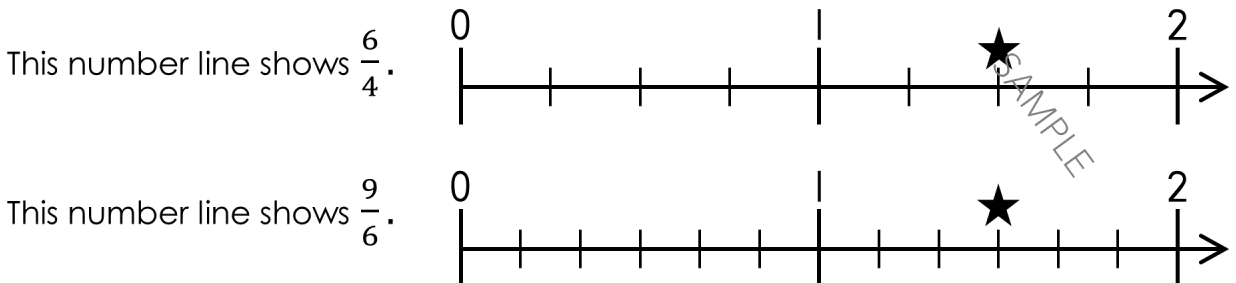
## Model



These fractions are both at the same place on number lines. They are the same distance from zero, so they are equivalent.



These fractions are not at the same place on number lines. Three-fourths is farther away from zero than two-thirds is. They are not equivalent.



Are they the same distance from zero? Are they equivalent?

yes     no

SAMPLE

Name \_\_\_\_\_

# I Can Tell When Fractions are Equivalent (with number lines)

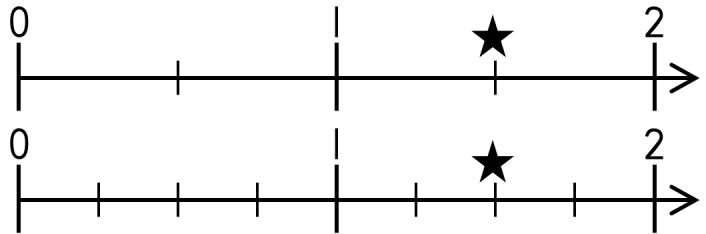
Guided Practice: Circle Yes or No

Are these fractions equivalent?

yes      no

$$\frac{3}{2}$$

$$\frac{6}{4}$$

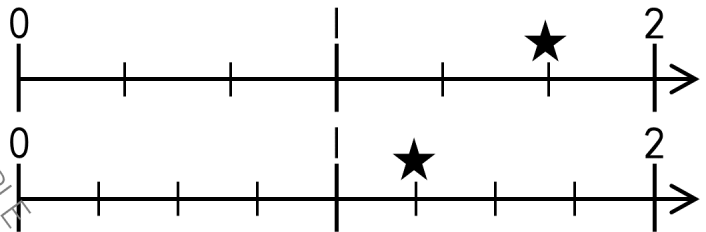


Are these fractions equivalent?

yes      no

$$\frac{5}{3}$$

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

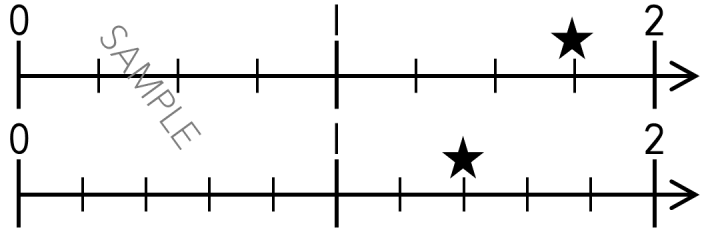


Are these fractions equivalent?

yes      no

$$\frac{7}{4}$$

$$\frac{7}{5}$$

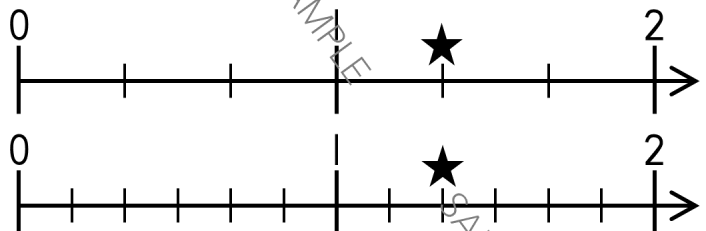


Are these fractions equivalent?

yes      no

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

$$\frac{8}{6}$$

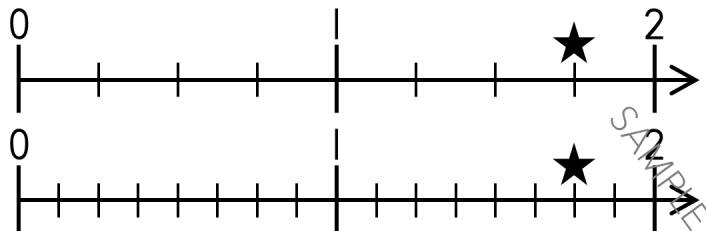


Are these fractions equivalent?

yes      no

$$\frac{7}{4}$$

$$\frac{14}{8}$$





SAMPLE

Name \_\_\_\_\_

# I Can Tell When Fractions are Equivalent (with number lines)

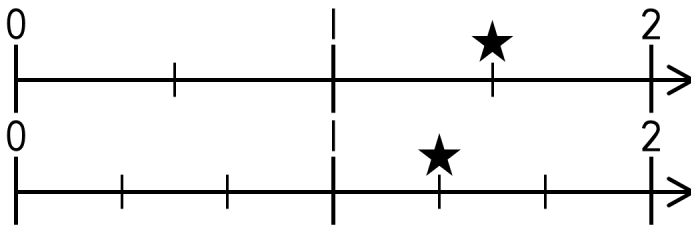
Independent Practice: Circle Yes or No

Are these fractions equivalent?

yes      no

$$\frac{3}{2}$$

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

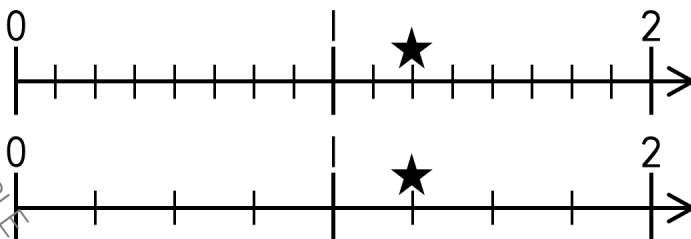


Are these fractions equivalent?

yes      no

$$\frac{10}{8}$$

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

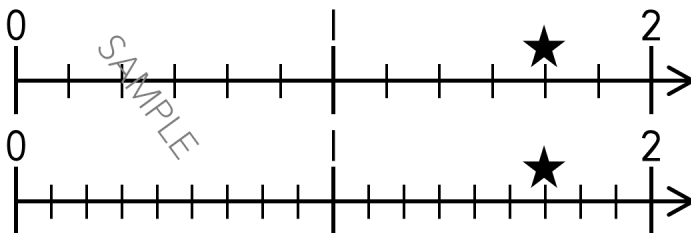


Are these fractions equivalent?

yes      no

$$\frac{10}{6}$$

$$\frac{15}{9}$$

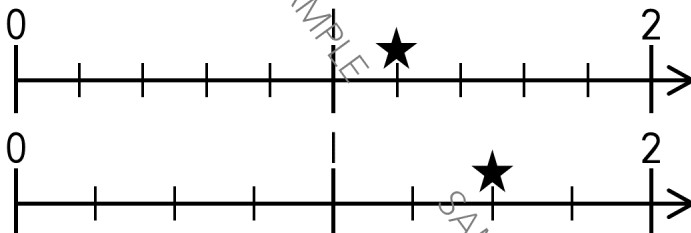


Are these fractions equivalent?

yes      no

$$\frac{6}{5}$$

$$\frac{6}{4}$$

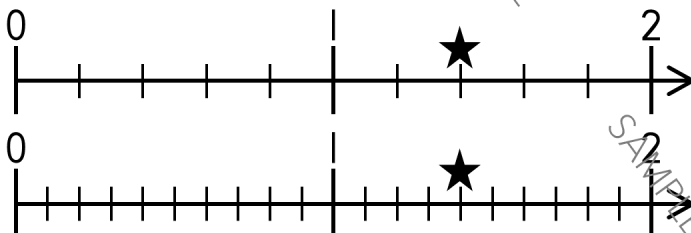


Are these fractions equivalent?

yes      no

$$\frac{7}{5}$$

$$\frac{14}{10}$$



SAMPLE

Name \_\_\_\_\_

# I Can Tell When Fractions are Equivalent (with number lines)

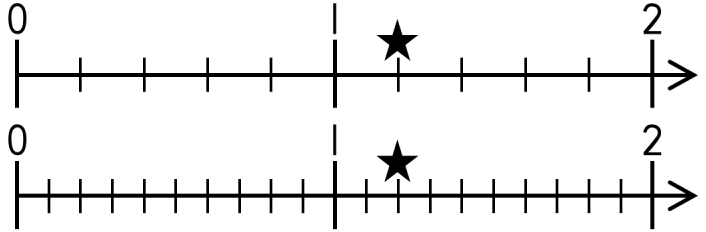
Independent Practice: Circle Yes or No

Are these fractions equivalent?

yes      no

$\frac{6}{5}$

$\frac{12}{10}$

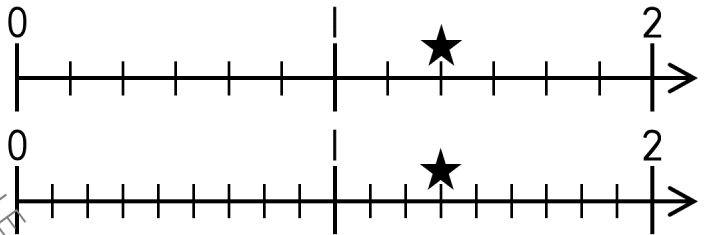


Are these fractions equivalent?

yes      no

$\frac{8}{6}$

$\frac{12}{9}$

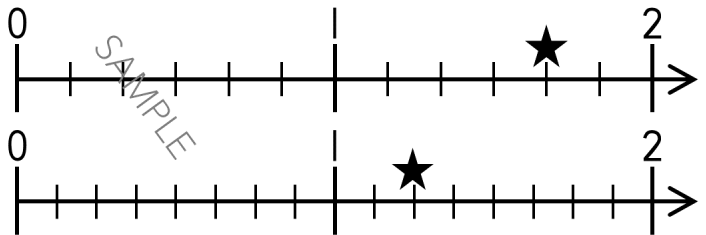


Are these fractions equivalent?

yes      no

$\frac{10}{6}$

$\frac{10}{8}$

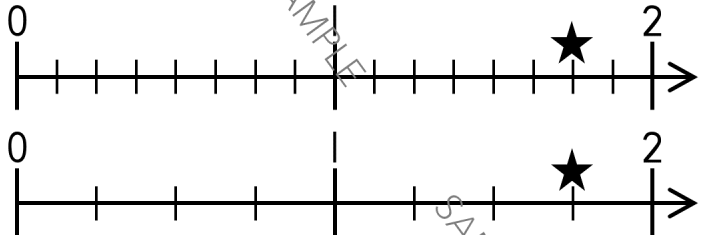


Are these fractions equivalent?

yes      no

$\frac{14}{8}$

$\frac{7}{4}$

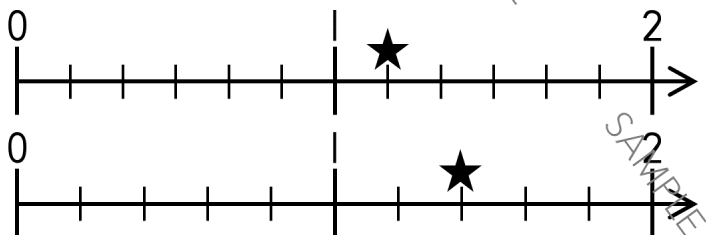


Are these fractions equivalent?

yes      no

$\frac{7}{6}$

$\frac{7}{5}$



## I Can Multiply to Find an Equivalent Fraction

### Rule

Multiply by a fraction that equals 1 to get an equivalent fraction.

### Model

This problem says, "three-fourths equals how many eighths."

$$\frac{3}{4} = \frac{\quad}{8}$$

To find how many eighths, we need to multiply  $\frac{3}{4}$  by a fraction that equals one.

$$\left(\frac{\quad}{\quad}\right) \frac{3}{4} = \frac{\quad}{8}$$

We will multiply three-fourths by a fraction that equals 1.

We will end with an equivalent fraction.

We need to figure out the fraction that equals 1.

Step 1: Look at the denominators (bottom numbers).  $(\square) 4 = 8$

Read across the bottom, "What number times four equals eight?"

Step 2: Write the missing denominator.  $(\underline{2}) \underline{4} = \underline{8}$

Step 3: Write the same numerator on top to make the fraction equal 1.

$$\left(\frac{\underline{2}}{\underline{2}}\right) \frac{3}{4} = \frac{\quad}{8}$$

Step 4: Multiply top times top to find the equivalent fraction.

$$\left(\frac{\underline{2}}{\underline{2}}\right) \frac{3}{4} = \frac{\underline{6}}{8}$$

Now we know three-fourths is equivalent to six-eighths.

## I Can Multiply to Find an Equivalent Fraction

## Guided Practice:

1. Read across the denominators (bottom) "What number times \_\_\_ equals \_\_\_?"
2. Write the missing denominator
3. Write the same numerator on top to make the fraction equal 1.
4. Multiply top times top to find the equivalent fraction.

Five-ninths equals how many twenty-sevenths?

$$\left(\frac{\quad}{\quad}\right) \frac{5}{9} = \frac{\quad}{27}$$

One-fourth equals how many twentieths?

$$\left(\frac{\quad}{\quad}\right) \frac{1}{4} = \frac{\quad}{20}$$

Five-eighths equals how many sixteenths?

$$\left(\frac{\quad}{\quad}\right) \frac{5}{8} = \frac{\quad}{16}$$

Three-fifths equals how many thirty-fifths?

$$\left(\frac{\quad}{\quad}\right) \frac{3}{5} = \frac{\quad}{35}$$

Two-fifths equals how many twentieths?

$$\left(\frac{\quad}{\quad}\right) \frac{2}{5} = \frac{\quad}{20}$$

SAMPLE

Name \_\_\_\_\_

## I Can Multiply to Find an Equivalent Fraction

## Independent Practice:

1. Read across the denominators (bottom) "What number times \_\_\_ equals \_\_\_?"
2. Write the missing denominator
3. Write the same numerator on top to make the fraction equal 1.
4. Multiply top times top to find the equivalent fraction.

One-third equals how many fifteenths?

$$\left( \frac{\quad}{\quad} \right) \frac{1}{3} = \frac{\quad}{15}$$

Two-fifths equals how many thirtieths?

$$\left( \frac{\quad}{\quad} \right) \frac{2}{5} = \frac{\quad}{30}$$

Six-sevenths equals how many twenty-firsts?

$$\left( \frac{\quad}{\quad} \right) \frac{6}{7} = \frac{\quad}{21}$$

Three-sixths equals how many twenty-fourths?

$$\left( \frac{\quad}{\quad} \right) \frac{3}{6} = \frac{\quad}{24}$$

Four-ninths equals how many eighteenthths?

$$\left( \frac{\quad}{\quad} \right) \frac{4}{9} = \frac{\quad}{18}$$

## I Can Multiply to Find an Equivalent Fraction

## Independent Practice:

1. Read across the denominators (bottom) "What number times \_\_\_ equals \_\_\_?"
2. Write the missing denominator
3. Write the same numerator on top to make the fraction equal 1.
4. Multiply top times top to find the equivalent fraction.

One-fifth equals how many twentieths?

$$\left(\frac{\quad}{\quad}\right) \frac{1}{5} = \frac{\quad}{20}$$

Five-sixths equals how many eighteenths?

$$\left(\frac{\quad}{\quad}\right) \frac{5}{6} = \frac{\quad}{18}$$

Two-thirds equals how many twenty-firsts?

$$\left(\frac{\quad}{\quad}\right) \frac{2}{3} = \frac{\quad}{21}$$

Three-eighths equals how many sixteenths?

$$\left(\frac{\quad}{\quad}\right) \frac{3}{8} = \frac{\quad}{16}$$

Two-fourths equals how many twentieths?

$$\left(\frac{\quad}{\quad}\right) \frac{2}{4} = \frac{\quad}{20}$$

## I Can Change Whole Numbers to Improper Fractions

### Vocabulary

Improper fraction: The top number (numerator) is greater than the bottom number (denominator).

### Model

This problem says, "5 whole units equals how many sevenths?"

$$5 = \frac{\quad}{7}$$

We want to figure out how many parts are used when we have five whole units. Today we will find the answer without counting on a picture.

A slower way:

Step 1: Make the whole number a fraction by putting it over 1.

$$\frac{5}{1} = \frac{\quad}{7}$$

Step 2: Find the equivalent fraction. (Multiply by a fraction equal to one)

$$\left(\frac{7}{7}\right) \frac{5}{1} = \frac{35}{7}$$

A faster way:

Step 1: Multiply the whole number times the number of parts in each whole.

$$5 = \frac{\quad}{7}$$

↙ x ↘

Five times seven is thirty-five.

Step 2: Write the answer above the fraction line.

$$5 = \frac{35}{7}$$

Five whole units equal thirty-five sevenths

## I Can Change Whole Numbers to Improper Fractions

## Guided Practice:

Slower way:

1. Make the whole number a fraction by putting it over 1.
2. Find the equivalent fraction. (multiply by a fraction equal to 1)

Faster way:

1. Multiply the whole number times the number of parts in each whole.
2. Write the answer above the fraction line.

Two equals how many sixths?

$$2 = \frac{\quad}{6}$$

Seven equals how many fourths?

$$7 = \frac{\quad}{4}$$

Four equals how many fifths?

$$4 = \frac{\quad}{5}$$

Five equals how many ninths?

$$5 = \frac{\quad}{9}$$

Six equals how many thirds?

$$6 = \frac{\quad}{3}$$

Nine equals how many halves?

$$9 = \frac{\quad}{2}$$

Three equals how many sevenths?

$$3 = \frac{\quad}{7}$$

Eight equals how many eighths?

$$8 = \frac{\quad}{8}$$



SAMPLE

Name \_\_\_\_\_

Mixed Numbers Lesson 2

## I Can Change Whole Numbers to Improper Fractions

## Independent Practice:

Eight equals how many fifths?

$$8 = \frac{\quad}{5}$$

Six equals how many fourths?

$$6 = \frac{\quad}{4}$$

Two equals how many ninths?

$$2 = \frac{\quad}{9}$$

Four equals how many eighths?

$$4 = \frac{\quad}{8}$$

Seven equals how many halves?

$$7 = \frac{\quad}{2}$$

Three equals how many fifths?

$$3 = \frac{\quad}{5}$$

Four equals how many thirds?

$$4 = \frac{\quad}{3}$$

Two equals how many sevenths?

$$2 = \frac{\quad}{7}$$

Nine equals how many thirds?

$$9 = \frac{\quad}{3}$$

Five equals how many sixths?

$$5 = \frac{\quad}{6}$$

SAMPLE

SAMPLE

Name \_\_\_\_\_

Mixed Numbers Lesson 2

## I Can Change Whole Numbers to Improper Fractions

## Independent Practice:

Nine equals how many fourths?

$$9 = \frac{\quad}{4}$$

Five equals how many eighths?

$$5 = \frac{\quad}{8}$$

Four equals how many sevenths?

$$4 = \frac{\quad}{7}$$

Eight equals how many thirds?

$$8 = \frac{\quad}{3}$$

Six equals how many sixths?

$$6 = \frac{\quad}{6}$$

Three equals how many ninths?

$$3 = \frac{\quad}{9}$$

Two equals how many eighths?

$$2 = \frac{\quad}{8}$$

Seven equals how many sixths?

$$7 = \frac{\quad}{6}$$

Three equals how many halves?

$$3 = \frac{\quad}{2}$$

Six equals how many ninths?

$$6 = \frac{\quad}{9}$$

SAMPLE