TOPIC 1

Use Positive Rational Numbers

In this topic, students use algorithms to add, subtract, multiply, and divide fractions, mixed numbers, and decimals through thousandths. They use estimation to determine whether an answer is reasonable.

CONNECT THE MATH

Whole numbers (0, 1, 2, 3, etc.) are useful for counting objects, but not everything comes in *wholes*. When counting *parts* of something, use fractions and decimals. In this topic, students work with positive decimals, fractions, and mixed numbers.

At a supermarket, many foods, including fruits, vegetables, and meat, are bought by weight. Discuss buying food by the pound with your student. Point out that the weight of a bag of apples is rarely a whole pound, and similarly the price is unlikely to be whole dollar amount.

LESSON 1-1

Fluently Add, Subtract, and Multiply Decimals

Algorithms can be used to add, subtract, and multiply decimals fluently.

LESSON OBJECTIVES

- Use a model and an algorithm to add, subtract, and multiply decimals.
- Use estimation to determine whether an answer is reasonable.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Subtract Decimals?
- How Do You Multiply Decimals?

You can use these search terms and phrases to help your student find additional help online:

- adding decimals
- subtracting decimals
- multiplying decimals

LESSON 1-2

Fluently Divide Whole Numbers and Decimals

An algorithm can be used to divide whole numbers and decimals fluently.

LESSON OBJECTIVES

- Divide multi-digit whole numbers.
- Divide decimals through thousandths.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Divide Whole Numbers?
- How Do You Divide a Decimal by a Decimal?

You can use these search terms and phrases to help your student find additional help online:

- dividing whole numbers by whole numbers
- dividing decimals by decimals

LESSON 1-3

Multiply Fractions

Visual models such as area models and number lines can be used to multiply fractions. The product of two fractions can be found by multiplying the numerators and then the denominators. Multiplying mixed numbers is an extension of multiplying fractions.

LESSON OBJECTIVES

- Multiply fractions and apply those skills to multiply mixed numbers.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Multiply Fractions?
- How Do You Multiply Mixed Numbers?.

You can use these search terms and phrases to help your student find additional help online:

- multiplying unit fractions
- multiplying fractions
- multiplying mixed numbers

LESSON 1-4

Understand Division with Fractions

Visual models, such as number lines and area models, and equations can be used to represent and solve problems that involve division of fractions. Dividing a whole number by a fraction is equivalent to multiplying the whole number by the reciprocal of the fraction.

LESSON OBJECTIVES

- Divide a whole number by any fraction.
- Divide any fraction by a whole number.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Divide Fractions?

Review Key Vocabulary

Review key vocabulary from this lesson in your student's glossary:

- reciprocals

You can use these search terms and phrases to help your student find additional help online:

- division of whole numbers by fractions
- division of fractions by whole numbers
- using reciprocals

LESSON 1-5

Divide Fractions by Fractions

Visual models, such as area models and number lines, can be used to represent and solve problems that involve division of a fraction by a fraction. Dividing by a fraction is equivalent to multiplying by the fraction's reciprocal.

LESSON OBJECTIVES

- Divide a fraction by a fraction.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Divide Fractions?

You can use these search terms and phrases to help your student find additional help online:

- using an area model to divide fractions
- dividing fractions by fractions
- using reciprocals

LESSON 1-6

Divide Mixed Numbers

The quotient of mixed numbers can be found by writing the mixed numbers as fractions and multiplying the dividend by the divisor's reciprocal. Students estimate and multiply to check their answers.

LESSON OBJECTIVES

- Divide a whole number by a mixed number and a mixed number by a whole

number.

- Divide a mixed number by a mixed number.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Divide Mixed Numbers?

You can use these search terms and phrases to help your student find additional help online:

- writing a mixed number as a fraction
- dividing a mixed number by a mixed number
- dividing a whole number by a mixed number
- dividing a mixed number by a whole number

LESSON 1-7

Solve Problems with Rational Numbers

Multi-step problems require students to plan the steps they follow to find the solution. Fraction and decimal problems require precision for students to identify the steps needed to solve the problem, use correct information, and calculate accurately.

LESSON OBJECTIVES

- Solve multi-step problems with decimals and fractions.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- How Do You Multiply Mixed Numbers?
- How Do You Divide a Decimal by a Decimal?

You can use these search terms and phrases to help your student find additional help online:

- writing a numerical expression to model a problem
- multiplying mixed numbers
- adding mixed numbers
- dividing mixed numbers
- dividing a decimal by a decimal