## Options FRMS Math 7A-OR

## Scope and Sequence

## Unit Lesson

Objectives

## Ratios and Proportions: Part One

Unit Rates
Use appropriate language to describe ratios and unit rates.
Use a given unit rate and proportional reasoning to complete a table.
Use a given unit rate and proportional reasoning to solve problems.
Applications of Unit Rates
Determine a unit rate from a real-world context.
Apply unit rates to solve for an unknown in real-world problems.
Use unit rates to make comparisons.
Finding a Constant of
Proportionality

Graphing Proportional Relationships

Find the constant of proportionality from verbal descriptions, tables, graphs, and diagrams.

Graph a proportional relationship from tables and verbal descriptions.
Identify the meanings of points on the graph of a proportional relationship and determine the characteristics of the graph
of a proportional relationship.
Identifying Proportional Relationships

Equations of Proportional
Relationships

Analyze data in tables and graphs to determine if the given relationships are proportional.

Identify the constant of proportionality from an equation.
Write an equation to represent a proportional relationship.

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| Unit | Lesson | Objectives |
|  |  | Translate between tables, graphs, and equations to represent proportional relationships. |
| Scale Factor |  |  |
|  |  | Use a given scale factor to find an unknown length on a reduction or enlargement. |
|  |  | Use a given scale factor to find an unknown length on an original. |
| Determining a Scale Factor |  |  |
|  |  | Identify a scale factor from given dimensions and use it to calculate unknown dimensions. |
| Solving Scale Problems Using Proportions |  |  |
|  |  | Use proportional relationships to solve problems involving scale drawings. |
| Scale Drawings and Area |  |  |
|  |  | Compute areas of figures from scale drawings. |
| Unit Test |  |  |
| Ratios and Proportions: Part Two |  |  |
| Finding a Percent of a Number |  |  |
|  |  | Solve problems by finding the percent of a number, including amounts of gratuity and tax, by using diagrams and expressions. |
|  |  | Find the percent of a number when the percent is more than 100. |
| Estimating with Percents |  |  |
|  |  | Make use of estimation strategies such as a benchmark percent, approximate fraction, decimal equivalent, or rounded numbers to find the percent of a number in real-world situations. |
|  |  | Use the distributive property to estimate percents that are more than 100. |
|  |  | Use estimations to verify the reasonableness of an answer. |
|  | Markups and Markdowns |  |



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| Unit | Lesson | Objectives |
|  |  | Describe real-world contexts for multiplying integers. |
|  | Dividing Integers |  |
|  |  | Use visual representations to divide integers. |
|  |  | Apply properties of operations and rules of signed numbers to divide integers. |
|  |  | Describe real-world contexts for dividing integers. |
|  | Solving Problems Involving Integers |  |
|  |  | Apply properties of operations to solve real-world and mathematical problems involving more than one operation with integers. |
|  | Unit Test |  |
| Operations on Rational Numbers: Part Two |  |  |
| Rational Numbers |  |  |
|  |  | Represent positive and negative rational numbers on vertical and horizontal number lines. |
|  |  | Write a rational number as a decimal that eventually terminates or repeats. |
|  |  | Describe real-world situations that can be represented by rational numbers, including where opposite quantities combine to make 0. |
| Adding and Subtracting Decimals |  |  |
|  |  | Use visual representations to add and subtract decimals. |
|  |  | Apply properties of operations to add and subtract decimals. |
|  |  | Estimate sums and differences of decimals. |
|  |  | Describe real-world contexts for adding and subtracting decimals. |
| Multiplying Decimals |  |  |
|  |  | Use the rules of signed numbers to multiply decimals. |



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## Scope and Sequence

Unit Lesson
Objectives
Apply properties of operations to divide fractions.
Estimate quotients of fractions.
Describe real-world contexts for dividing fractions.
Solving Problems Involving Rational Numbers

Solve real-world and mathematical problems involving addition, subtraction, multiplication, and division with rational numbers.

## Unit Test

## Expressions

Understanding Expressions
Write and evaluate numerical expressions.
Identify the parts of an algebraic expression.
Writing and Evaluating
Expressions
Write expressions to represent real-world situations.
Evaluate expressions for real-world situations.

## Using Properties to Simplify

 ExpressionsAdding and Subtracting
Expressions
Add algebraic expressions and use them to model real-world scenarios.
Subtract algebraic expressions and use them to model real-world scenarios.
Expanding Expressions

Simplify expressions using properties of operations and combining like terms.

Use the distributive property to expand and simplify algebraic expressions.

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Unit Lesson

Factoring Expressions
Find the greatest common factor of an algebraic expression.
Rewrite algebraic expressions by factoring.
Real-World Applications of Expressions

Scope and Sequence
Objectives
Identify equivalent expressions.

Write, simplify, and evaluate multi-term expressions to solve problems.

Unit Test
Cumulative Exam
Cumulative Exam Review
Cumulative Exam

