

Eureka Math Parent Guide

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

GRADE 5
MODULE 6

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 6 FOCUS

In Module 6, students develop a coordinate system for the first quadrant of the coordinate plane and use it to solve problems. They explore the relationship between points, ordered pairs, patterns, and lines. The module finishes with an exploration of the **coordinate plane** in real world applications.

MORE SPECIFICALLY, CHILDREN WILL LEARN HOW TO:

- Write simple expressions that record calculations with numbers, and interpret numerical expressions.
- Generate two numerical patterns using two given rules, and identify apparent relationships between corresponding terms.
- Use a pair of perpendicular number lines, called axes, to define a coordinate system.
- Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

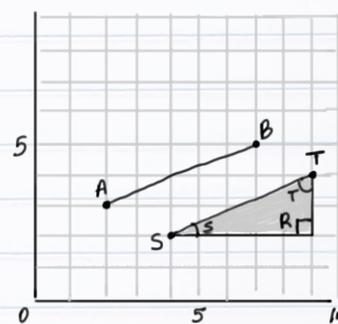
TOPIC OVERVIEW

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 6:

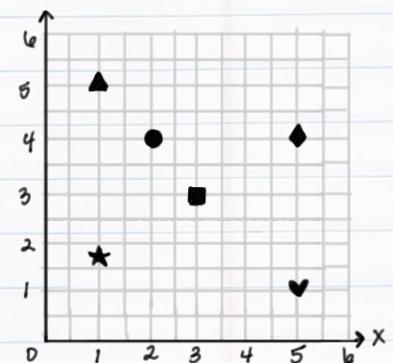
- Topic A: Coordinate Systems
- Topic B: Patterns in the Coordinate Plane and Graphing Number Patterns from Rules
- Topic C: Drawing Figures in the Coordinate Plane
- Topic D: Problem Solving in the Coordinate Plane
- Topic E: Multi-Step Word Problems
- Topic F: The Years In Review: A Reflection on *A Story of Units*

WORDS TO KNOW

- **Decimal:** A fraction whose denominator is a power of ten
- **Decimal Fraction:** A proper fraction whose denominator is a power of ten
- **Equation:** A statement that the values of two expressions are equal
- **Estimate:** Approximation of the value of a quantity or number
- **Product:** The result of a multiplication
- **Quotient:** The result of dividing one quantity by another
- **Remainder:** The number left over when one integer is divided by another
- **Unit Form:** Place value counting, e.g., 34 is stated as 3 tens 4 ones



Drawing figures on the coordinate plane



The coordinate plane

- ▲ = (1, 5)
- = (2, 4)
- ★ = (1, 1.75)
- = (3, 3)
- ◆ = (5, 4)
- ♥ = (5, 1)

SAMPLE PROBLEMS

SAMPLE 1

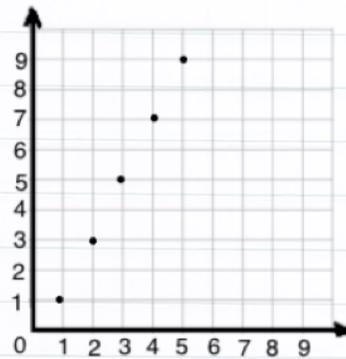
Module 6, the final module of Grade 5, is a very important link to the algebraic skills students will need in later years. Students begin by investigating patterns, relating the x - and y -coordinates of the points on the line and reasoning about the patterns in the ordered pairs, which lays groundwork for Grade 6 work with proportional reasoning.

Students use given rules (e.g., “multiply by 2, then add 3”) to generate coordinate pairs, plot points, and investigate relationships. Finally, students generate two number patterns from two given rules, plot the points, and analyze the relationships within the sequences of the ordered pairs and the graphs of the two lines.

Rule: double x , then subtract 1.

| x | y | (x,y) |
|-----|-----|---------|
| 1 | 1 | (1,1) |
| 2 | 3 | (2,3) |
| 3 | 5 | (3,5) |
| 4 | 7 | (4,7) |
| 5 | 9 | (5,9) |

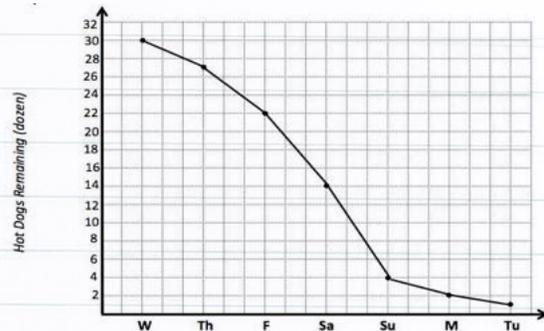
The rule table and the plotted points for the rule “Double x , then subtract 1”



SAMPLE 2

Harry runs a hot dog stand at the county fair. When he arrived on Wednesday, he had 38 dozen hot dogs on his stand. The graph shows the number of hot dogs (in dozens) that remained unsold at the end of each day of sales.

1. How many dozen hot dogs did Harry sell on Wednesday? How do you know?
2. Between which two-day period did the number of hot dogs sold change the most? Explain how you determined your answer.



HOW YOU CAN HELP AT HOME

- Play the game Battleship, if you have it! It gives good practice with locating points on a coordinate plane.
- Practice following rules to find ordered pairs, e.g. if the rule is $y = \text{double } x \text{ plus } 1$, what is y if x is 3? 4? 5? (Answers are 7, 9, 11.)