

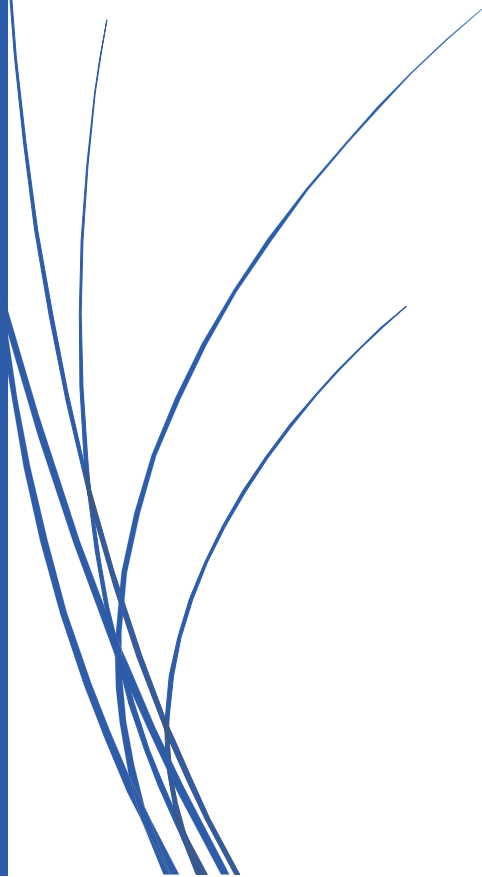


**CALVERT**  
EDUCATION

2018-19

# CALVERT HOMESCHOOL™ CURRICULUM CATALOG

## Mathematics 700



# Table of Contents

**MATHEMATICS 700 COURSE OVERVIEW..... 1**  
UNIT 1: INTEGERS..... 2  
UNIT 2: FRACTIONS..... 2  
UNIT 3: DECIMALS..... 3  
UNIT 4: PATTERNS AND EQUATIONS ..... 3  
UNIT 5: RATIOS AND PROPORTIONS..... 4  
UNIT 6: PROBABILITY AND GRAPHING ..... 4  
UNIT 7: DATA ANALYSIS..... 5  
UNIT 8: GEOMETRY ..... 5  
UNIT 9: MEASUREMENT AND AREA ..... 6  
UNIT 10: SURFACE AREA AND VOLUME..... 6  
UNIT 11: COURSE REVIEW AND EXAM ..... 6  
UNIT 12: END OF COURSE EXAM ..... 6

## Mathematics 700 Course Overview

Mathematics 700 is designed to prepare junior-high students for Pre-algebra. This course focuses on strengthening needed skills in problem solving, number sense, and proportional reasoning. It also introduces students to integers, equations, and geometric concepts. Students will begin to see the "big picture" of mathematics and learn how numeric, algebraic, and geometric concepts are woven together to build a foundation for higher mathematical thinking.

- **Integers:** Students will learn how to locate, add, subtract, multiply, and divide integers to solve word problems, as well as compare integers using absolute value and the order of operation.
- **Fractions:** Students will understand how fractions can be written into other forms without changing their value, and how to add, subtract, multiply, and divide fractions.
- **Decimals:** Students will explore how to rewrite fractions as decimals, and how to use decimals to solve real-world problems.
- **Patterns and Equations:** Students will learn how to translate words into equations and use them to solve number patterns.
- **Ratios and Proportions:** Students will explore how to use ratios to compare numbers, solve proportions, and convert between percent's, decimals, and fractions.
- **Probability and Graphing:** Students will be able to determine the probability of an event, and if they are independent or dependent events, as well as create a graph of an equation
- **Data Analysis:** Students will learn how to interpret statistics using stem-and-leaf plots, histograms, and other graphical means.
- **Geometry:** Students will explore how points, lines, and planes interact and how to solve equations using their information.
- **Measurement and Area:** Students will learn about finding perimeters and areas of different polygons and using the Pythagorean theorem to solve problems.
- **Surface Area and Volume:** Students will explore three-dimensional figures and how to find their surface area, volume of them.

Unit 1: Integers	
Assignments	
1. Course Overview	19. Alternate Quiz 3—Form A: Multiplying and Dividing Integers*
2. Integers on the Number Line	20. Alternate Quiz 3—Form B: Multiplying and Dividing Integers*
3. Comparing and Ordering Integers	21. The Real Number System
4. Absolute Value	22. Real Number Properties
5. Quiz 1: Integers	23. The Distributive Property
6. Alternate Quiz 1—Form A: Integers*	24. Order of Operations
7. Alternate Quiz 1—Form B: Integers*	25. Exponents and the Order of Operations
8. Adding Integers with the Same Sign	26. Performance Task
9. Adding Integers with Different Signs	27. Quiz 4: The Real Number System*
10. Subtracting Integers	28. Alternate Quiz 4—Form A: The Real Number System*
11. Quiz 2: Adding and Subtracting Integers	29. Alternate Quiz 4—Form B: The Real Number System*
12. Alternate Quiz 2—Form A: Adding and Subtracting Integers*	30. Special Project*
13. Alternate Quiz 2—Form B: Adding and Subtracting Integers*	31. Review
14. Multiplying Integers	32. Test
15. Dividing Integers	33. Alternate Test—Form A*
16. Using Integers	34. Alternate Test—Form B*
17. Performance Task	35. Glossary and Credits
18. Quiz 3: Multiplying and Dividing Integers	

Unit 2: Fractions	
Assignments	
1. Fractions and Mixed Numbers	15. Comparing and Ordering Fractions
2. Equivalent Fractions	16. Multiplying Fractions
3. Divisibility Rules and Prime Factorization	17. Dividing Fractions
4. Greatest Common Factor and Least Common Multiple	18. Performance Task
5. Quiz 1: Working with Fractions	19. Quiz 3: Multiplying and Dividing Fractions
6. Alternate Quiz 1 - Form A: Working with Fractions*	20. Alternate Quiz 3 - Form A: Multiplying and Dividing Fractions*
7. Alternate Quiz 1 - Form B: Working with Fractions*	21. Alternate Quiz 3 - Form B: Multiplying and Dividing Fractions*
8. Adding and Subtracting Fractions with Like Denominators	22. Project: Chef for a Day
9. Adding and Subtracting Fractions with Unlike Denominators	23. Special Project*
10. Reducing Fractions	24. Review
11. Performance Task*	25. Test
12. Quiz 2: Adding and Subtracting Fractions	26. Alternate Test - Form A*
13. Alternate Quiz 2 - Form A: Adding and Subtracting Fractions*	27. Alternate Test - Form B*
14. Alternate Quiz 2 - Form B: Adding and Subtracting Fractions*	28. Glossary and Credits

Unit 3: Decimals	
Assignments	
1. Comparing and Ordering Decimals	12. Performance Task
2. Rounding and Estimating Decimals	13. Scientific Notation
3. Adding and Subtracting Decimals	14. The Metric System
4. Multiplying and Dividing Decimals	15. Quiz 2: Applying Decimals
5. Performance Task*	16. Alternate Quiz 2 - Form A: Applying Decimals*
6. Quiz 1: Decimals and Their Operations	17. Alternate Quiz 2 - Form B: Applying Decimals*
7. Alternate Quiz 1 - Form A: Decimals and Their Operations*	18. Special Project*
8. Alternate Quiz 1 - Form B: Decimals and Their Operations*	19. Review
9. Terminating and Repeating Decimals	20. Test
10. Fractions as Decimals	21. Alternate Test - Form A*
11. Using Decimals	22. Alternate Test - Form B*
	23. Glossary and Credits

Unit 4: Patterns and Equations	
Assignments	
1. Working with Variables and Expressions	21. Quiz 3: Solving Equations
2. Adding and Subtracting Algebraic Expressions	22. Alternate Quiz 3—Form A: Solving Equations*
3. Expanding and Factoring Variable Expressions	23. Alternate Quiz 3—Form B: Solving Equations*
4. Evaluating Expressions	24. Solving Two-Step Equations
5. Using Formulas to Solve Problems	25. Working with Inequalities
6. Performance Task	26. Solving One-Step Inequalities
7. Quiz 1: Variable Expressions	27. Solving Two-Step Inequalities
8. Alternate Quiz 1—Form A: Variable Expressions*	28. Performance Task
9. Alternate Quiz 1—Form B: Variable Expressions*	29. Quiz 4: Equations and Inequalities
10. Identifying Number Patterns	30. Alternate Quiz 4—Form A: Equations and Inequalities*
11. Describing Number Patterns	31. Alternate Quiz 4—Form B: Equations and Inequalities*
12. Identifying Functions	32. Special Project*
13. Identifying Function Rules	33. Review
14. Quiz 2: Patterns and Functions	34. Test
15. Alternate Quiz 2—Form A: Patterns and Functions*	35. Alternate Test—Form A*
16. Alternate Quiz 2—Form B: Patterns and Functions*	36. Alternate Test—Form B*
17. Translating Word Sentences	37. Glossary and Credits
18. Solving Equations Using Mental Math	
19. Solving Equations Using Addition and Subtraction	
20. Solving Equations Using Multiplication and Division	

<b>Unit 5: Ratios and Proportions</b>	
<b>Assignments</b>	
1. Ratios	16. Percent of a Number
2. Rates	17. Percent of Change
3. Proportions	18. Solving Percent Problems Using Proportions
4. Quiz 1: Ratios, Rates, and Proportions	19. Solving Percent Problems Using Equations
5. Alternate Quiz 1: Form A: Ratios, Rates, and Proportions*	20. Performance Task
6. Alternate Quiz 1: Form B: Ratios, Rates, and Proportions*	21. Quiz 3: Fractions, Decimals, and Percents
7. Converting Customary Units	22. Alternate Quiz 3: Form A: Fractions, Decimals, and Percents*
8. Converting Metric Units	23. Alternate Quiz 3: Form B: Fractions, Decimals, and Percents*
9. Similarity	24. Special Project*
10. Scale Drawings	25. Review
11. Performance Task	26. Test
12. Quiz 2: Using Proportions	27. Alternate Test: Form A*
13. Alternate Quiz 2: Form A: Using Proportions*	28. Alternate Test: Form B*
14. Alternate Quiz 2: Form B: Using Proportions*	29. Glossary and Credits
15. Converting Between Fractions, Decimals, and Percents	

<b>Unit 6: Probability and Graphing</b>	
<b>Assignments</b>	
1. Theoretical Probability	12. Direct Variation
2. Experimental Probability	13. Performance Task
3. Sample Space	14. Quiz 2: Functions
4. Performance Task	15. Alternate Quiz 2: Form A: Functions*
5. Independent and Dependent Events	16. Alternate Quiz 2: Form B: Functions*
6. Quiz 1: Probability	17. Special Project*
7. Alternate Quiz 1: Form A: Probability*	18. Review
8. Alternate Quiz 1: Form B: Probability*	19. Test
9. Graphing Ordered Pairs	20. Alternate Test: Form A*
10. Graphing Linear Equations	21. Alternate Test: Form B*
11. Slope	22. Glossary and Credits

<b>Unit 7: Data Analysis</b>	
<b>Assignments</b>	
1. Collecting Data	20. Circle Graphs
2. Determining Mean, Median, and Mode	21. Performance Task
3. Using Mean, Median, and Mode	22. Scatter Plots
4. Using Range	23. Quiz 3: Graphing Data and Making Predictions
5. Mean Absolute Deviation	24. Alternate Quiz 3: Form A: Graphing Data and Making Predictions*
6. Quiz 1: Describing Data	25. Alternate Quiz 3: Form B: Graphing Data and Making Predictions*
7. Alternate Quiz 1: Form A: Describing Data*	26. Financial Assets and Liabilities
8. Alternate Quiz 1: Form B: Describing Data*	27. Personal Financial Skills
9. Dot Plots	28. Quiz 4: Financial Skills
10. Box-and-Whisker Plots	29. Alternate Quiz 4: Form A: Financial Skills
11. Performance Task	30. Alternate Quiz 4: Form B: Financial Skills
12. Stem-and-Leaf Plots	31. Special Project*
13. Histograms	32. Review
14. Other Graphs	33. Test
15. Quiz 2: Organizing Data	34. Alternate Test: Form A*
16. Alternate Quiz 2: Form A: Organizing Data*	35. Alternate Test: Form B*
17. Alternate Quiz 2: Form B: Organizing Data*	36. Glossary and Credits
18. Line Graphs	
19. Bar Graphs	

<b>Unit 8: Geometry</b>	
<b>Assignments</b>	
1. Introduction to Geometry	16. Alternate Quiz 2: Form A: Classifying Polygons*
2. Special Pairs of Angles	17. Alternate Quiz 2: Form B: Classifying Polygons*
3. Polygons	18. Symmetry
4. Circles	19. Reflections
5. Performance Task	20. Translations
6. Quiz 1: Basic Geometry	21. Compound Transformations
7. Alternate Quiz 1: Form A: Basic Geometry*	22. Quiz 3: Transformations
8. Alternate Quiz 1: Form B: Basic Geometry*	23. Alternate Quiz 3: Form A: Transformations*
9. Project: Inscribed Polygons	24. Alternate Quiz 3: Form B: Transformations*
10. Triangles	25. Special Project*
11. Quadrilaterals	26. Review
12. Drawing Triangles and Quadrilaterals	27. Test
13. Similar Polygons	28. Alternate Test: Form A*
14. Performance Task	29. Alternate Test: Form B*
15. Quiz 2: Classifying Polygons	30. Glossary and Credits

Unit 9: Measurement and Area	
Assignments	
Mathematics 700	1. Perimeter
	2. Circumference
	3. Composite Figures
	4. Performance Task
	5. Quiz 1: Perimeter
	6. Alternate Quiz 1: Form A: Perimeter*
	7. Alternate Quiz 1: Form B: Perimeter*
	8. Area of Parallelograms
	9. Area of Triangles and Trapezoids
	10. Area of Circles
	11. Area of Composite Figures
	12. Dimension Changes
	13. Quiz 2: Area
	14. Alternate Quiz 2: Form A: Area*
	15. Alternate Quiz 2: Form B: Area*
	16. Squares and Square Roots
	17. Performance Task
	18. The Pythagorean Theorem
	19. Applying the Pythagorean Theorem
	20. Quiz 3: The Pythagorean Theorem
	21. Alternate Quiz 3: Form A: The Pythagorean Theorem*
	22. Alternate Quiz 3: Form B: The Pythagorean Theorem*
	23. Special Project*
	24. Review
	25. Test
	26. Alternate Test: Form A*
	27. Alternate Test: Form B*
	28. Glossary and Credits

Unit 10: Surface Area and Volume	
Assignments	
Mathematics 700	1. Classifying and Identifying Solids
	2. Nets and Cross Sections
	3. Surface Area and Volume
	4. Quiz 1: Solids
	5. Alternate Quiz 1: Form A: Solids*
	6. Alternate Quiz 1: Form B: Solids*
	7. Surface Area of Rectangular Prisms
	8. Volume of Rectangular Prisms
	9. Performance Task
	10. Surface Area of Triangular Prisms
	11. Volume of Triangular Prisms
	12. Quiz 2: Prisms
	13. Alternate Quiz 2: Form A: Prisms*
	14. Alternate Quiz 2: Form B: Prisms*
	15. Surface Area of Cylinders
	16. Volume of Cylinders
	17. Dimension Changes
	18. Performance Task
	19. Quiz 3: Cylinders
	20. Alternate Quiz 3: Form A: Cylinders*
	21. Alternate Quiz 3: Form B: Cylinders*
	22. Special Project*
	23. Review
	24. Test
	25. Alternate Test: Form A*
	26. Alternate Test: Form B*
	27. Glossary and Credits

Unit 11: Course Review and Exam	
Assignments	
Mathematics 700	1. Review 1
	2. Review 2
	3. Final Exam
	4. Alternate Final Exam - Form A*
	5. Alternate Final Exam - Form B*
	6. Performance Task 1*
	7. Performance Task 2*
	8. Performance Task 3*
	9. Performance Task 4*

Unit 12: End of Course Exam	
Assignments	
Mathematics 700	1. Exam*
	2. Alternate Exam - Form A*
	3. Alternate Exam - Form B*

(\*) Indicates alternative assignment