Course Catalog

Mathematics 700

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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.

By the end of the course, students will be expected to do the following:

- Gain an increased awareness of how math is a life skill.
- Understand how math gives us different ways to model or express the same thing.
- Explore concepts taught in previous math courses, but at higher levels, applying the concepts to real world situations.
- Use proportional reasoning in order to model and solve real world problems.
- Utilize new skills and concepts that will help them in future math courses.

UNIT 1: INTEGERS

Assignment Titles

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

UNIT 2: FRACTIONS

Assignment Titles

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

UNIT 3: DECIMALS

Assignment Titles

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

UNIT 4: PATTERNS AND EQUATIONS

Assignment Titles

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

UNIT 5: RATIOS AND PROPORTIONS

Assignment Titles

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

UNIT 6: PROBABILITY AND GRAPHING

Assignment Titles

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

UNIT 7: DATA ANALYSIS

Assignment Titles

1. Collecting Data
2. Determining Mean, Median, and Mode
3. Using Mean, Median, and Mode
4. Using Range
5. Quiz 1: Describing Data
6. Alternate Quiz 1: Form A: Describing Data*
7. Alternate Quiz 1: Form B: Describing Data*
8. Box-and-Whisker Plots
9. Stem-and-Leaf Plots
10. Histograms
11. Other Graphs
12. Quiz 2: Organizing Data
13. Alternate Quiz 2: Form A: Organizing Data*
14. Alternate Quiz 2: Form B: Organizing Data*
15. Line Graphs
16. Bar Graphs
17. Circle Graphs
18. Scatter Plots
19. Quiz 3: Graphing Data and Making Predictions
20. Alternate Quiz 3: Form A: Graphing Data and Making Predictions*
21. Alternate Quiz 3: Form B: Graphing Data and Making Predictions*
22. Special Project*
23. Review
24. Test
25. Alternate Test: Form A*
26. Alternate Test: Form B*
27. Glossary and Credits

UNIT 8: GEOMETRY

Assignment Titles

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

UNIT 9: MEASUREMENT AND AREA

Assignment Titles

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

UNIT 10: SURFACE AREA AND VOLUME

Assignment Titles

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

UNIT 11: COURSE REVIEW AND EXAM

Assignment Titles

1.	Course Review 1	4.	Alternate Exam: Form A*
2.	Course Review 2	5.	Alternate Exam: Form B*
3.	Exam		

(*) Indicates alternate assignment