

Math 7/8 Honors - Expectations for Exit Exam

Text Book Information:

Big Ideas Math - Advanced 2 Authors: Ron Larson & Laurie Boswell ISBN-13: 9781608405275
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This Exit Exam will take approximately 4 hours. Students will be allowed to use a scientific calculator. The calculator cannot have graphing capabilities (no graphing calculators) or Wi-Fi capabilities (no phones or tablet apps). The exam contains both multiple choice and constructed response items. Partial credit may be earned on some items. Any of the concepts listed below may be on the test. You must score 77% or more to pass the exam and be placed into Algebra 1 Honors for the following school year.

Content Covered in the Course:

The Troy School District curriculum is based on the Michigan Mathematics Standards. The table below gives a brief description of the topics covered in the Math 7/8 Honors textbook. For a detailed explanation of the content expectations, see the complete list of Michigan Mathematics Standards for Math 8 and the Math 7 Standards for Equations & Expressions, Geometry, and Statistics and Probability:

http://www.michigan.gov/documents/mde/K-12_MI_Math_Standards_REV_470033_7_550413_7.pdf

The Exit Exam is a comprehensive assessment of the full Troy School District Curriculum and Michigan Mathematics Standards. Students should be prepared to demonstrate their proficiency on all content.

Solving Equations

- Solving Simple Equations
- Solving Multi-Step Equations
- Solving Equations with Variables on Both Sides
- Solutions of Linear Equations
- Rewriting Equations and Formulas
- Converting Units of Measure

Transformations

- Congruent Figures
- Translations
- Reflections
- Rotations
- Similar Figures & Transformations
- Perimeters & Areas of Similar Figures
- Dilations

Angles & Triangles

- Parallel Lines and Transversals
- Angles of Triangles
- Classifying Angles
- Angles and Sides of Triangles
- Angles of Polygons
- Using Similar Triangles
- Domain and Range of a Functions
- Discrete and Continuous Domains
- Linear Function Patterns
- Comparing Linear and Nonlinear Functions
- Comparing Rates

Linear Inequalities

- Writing and Graphing Inequalities
- Solving Inequalities Using Addition or Subtraction
- Solving Inequalities Using Multiplication or Division
- Solving Multi-Step Inequalities

Graphing and Writing Linear Equations

- Graphing Linear Equations
- Slope of a Line
- Graphing Proportional Relationships
- Graphing Linear Equations in Slope-Intercept Form
- Graphing Linear Equations in Standard Form
- Solving Real-Life Problems involving linear equations
- Writing Equations in Point-Slope Form

Systems of Linear Equations

- Solving Systems of Linear Equations by Graphing
- Solving Systems of Linear Equations by Substitution
- Solving Systems of Linear Equations by Elimination
- Solving Special Systems of Linear Equations

Functions

- Representing Functions and Relations
- Domain and Range of a Functions
- Discrete and Continuous Domains

- Linear Function Patterns
- Comparing Linear and Nonlinear Functions
- Analyzing and Sketching Graphs

Real Numbers and The Pythagorean Theorem

- Finding Square Roots
- The Pythagorean Theorem
- Approximating Squares Roots
- Real Numbers (Rational vs. Irrational)
- Simplifying Square Roots
- Using the Pythagorean Theorem

Volume and Surface Area

- Volumes of Prisms
- Volumes of Cylinders
- Volumes of Pyramids
- Volumes of Cones
- Volumes of Composite Solids
- Surface Areas and Volumes of Similar Solids

Data Analysis and Displays

- Measures of Central Tendency
- Stem-and-Leaf Plots
- Histograms

- Circle Graphs
- Box-and-Whisker Plots
- Scatter Plots and Lines of Best Fit
- Two-Way Tables
- Samples and Populations
- Comparing Populations
- Choosing a Data Display

Circles and Area

- Circumference
- Perimeters of Composite Figures
- Area of Circle
- Areas of Composite Figures

Probability and Statistics

- Outcomes and events
- Probability
- Experimental and Theoretical Probability
- Compound events
- Independent and dependent events
- Samples and populations
- Comparing populations

Students will also be expected to show proficiency in the Standards for Mathematical Practice (Common Core State Standards):

- Standard 1: Make sense of problems and persevere in solving them
- Standard 2: Reason abstractly and quantitatively
- Standard 3: Construct viable arguments and critique the reasoning of others
- Standard 4: Model with mathematics
- Standard 5: Use appropriate tools strategically
- Standard 6: Attend to precision
- Standard 7: Look for and make use of structure
- Standard 8: Look for and express regularity in repeated reasoning