

Math 7 Honors Course Syllabus M161 – Full Year

Prerequisite: Placement in the Honors program is by application. The selection process takes place at the end of the first semester of grade 6. Mathematics and Science are blocked for teaming purposes. In order to qualify for Honors Mathematics, students must meet the criteria and be accepted for both the Mathematics Honors and Science Honors programs.

Note: The junior high school Honors program is rigorous and demanding. Students are expected to meet and maintain high standards of performance in Honors courses. The program is comprehensive in scope and sequence and accelerated in pace of instruction.

Mathematics Honors is an accelerated study of mathematics. Seventh grade Honors combines two years of mathematics (Math 7 and Math 8) into one year of Math 7H.

Math 7 Honors is for students who have excelled and demonstrated a firm grasp of concepts and skills in sixth grade mathematics and science, have the teachers' recommendation. The students must display a high degree of interest in math and science, be motivated and self-directed, easily understand new concepts and principles, and display a high level of problem-solving skills.

Students who are not meeting the criteria at any time during the school year will be reviewed for possible removal from the Honors program.

Areas of Study Include:

Ratios and Proportional Relationships

• Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System

• Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

• Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations

• Use properties of operations to generate equivalent expressions.

• Solve real-life and mathematical problems using

- numerical and algebraic expressions and equations.
- Work with radicals and integer exponents.
- Understand the connections between proportional relationships, lines, and linear equations.

• Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions

- Define, evaluate, and compare functions.
- Use functions to model relationships between quantities.

Geometry

- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

Statistics and Probability

- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.
- Investigate patterns of association in bivariate data.

Assessment: Math 7H students will take the NYS Math Assessment in April/May, and a district-wide final exam in February and June.

For the complete CCSS for Math 7 Honors (7th & 8th grade math) please see: http://www.p12.nysed.gov/ciai/common_core_standards/pdfdocs/nysp12cclsmath.pdf Textbook: Big Ideas Math – Red Accelerated, published by Big Ideas Learning LLC, © 2014