

# DOINGWHATWORKS



Audio

FULL DETAILS AND TRANSCRIPT

## Accelerated Algebra

Henry Wadsworth Longfellow Middle School, Virginia

November 2008

Topic: National Math Panel: Major Topics of School Algebra

Practice: Multiple Paths

### Highlights

- Reasons for Honors Algebra
- Selection of students for Honors Algebra
- Topics in an Honors Algebra course
- Types of problems in Honors Algebra
- Expectations of students in Honors Algebra
- Next courses for students after Honors Algebra

### About the Site

Henry Wadsworth Longfellow Middle School

Falls Church, VA

### Demographics

66% White

19% Asian

7% Hispanic

5% Other

3% Black

7% Free or Reduced-Price Lunch

6% English Language Learners

11% Special Education

Longfellow Middle School has a reputation of academic excellence, recognized nationally in the fields of mathematics and instrumental music and named in the top 5% of the state's schools by Virginia's governor.

Features of how mathematics is taught at Longfellow:

- Rigorous requirements in all mathematics courses,
- Leveled courses include at grade 7: Math, Honors and Algebra I; at grade 8: Algebra Readiness, Algebra I Honors, Geometry Honors,
- Math for Success after-school program for extra support for all students and Power Math semester-long course for small group of students to support them in regular math courses,
- Computerized pre-algebra modules used to help individual skill practice based on student needs,
- Routine use of peer explanation of approaches to problems,
- Courses for acceleration of gifted students in mathematics, and
- Algebra Boot Camp to prepare incoming Honors Algebra I students for the content and expectations of the class.

## Full Transcript

I'm Barbara Burnett. I'm an Honors Math teacher at Longfellow Middle School in Falls Church, Virginia. The Honors Algebra course at Longfellow Middle School has been in effect since I arrived in 1985, and the reason is there are some people—students that need more challenge than the Algebra course. This course is for the students that pick things up really fast and they want the extra challenge. If the student has higher level thinking skills, it shows beyond just plain computational skills, then they are encouraged to go into Honors Algebra. I have been teaching this course for probably 15 years, and I have had both the seventh grade classes, the eighth grade classes, and mixtures of seventh and eighth graders in this class.

The Honors Algebra course takes all of the topics of the regular course and then just goes much deeper with them. The requirement is that the students be able to use the TI-83 Calculator and plug ABC from the quadratic equation into the quadratic formula. What I do is first they can factor anything that's an  $x^2$  equation. Then they can do the square-root method on any kind of equation that doesn't have a middle term. Then they have to complete the square. And after that, I have them derive the quadratic formula by completing the square. I bring in interesting things that they can do that extend the objectives that are part of our curriculum. I bring in analogies and math problems out of the GRE and the SAT prep.

I'm trying to build on the core curriculum, and so the core curriculum obviously has fractions and integers in

it. Well, rather than reviewing fractions and integers, per se, my primary equations—three and four-step and five-step equations—involve fractions and integers. I also spend more time than a core curriculum teacher would in applying these things to word problems.

I have very high expectations. I have students come back to me all the time and tell me how they are doing in high school math, and they all say, “Oh, we had such a great grounding here.”

After the students leave us for Honors Algebra, they take Honors Geometry. They usually then go to Honors Algebra II, Trig. Then, by the time they are a junior or a senior, they are taking BC Calculus. Now, the ones that are taking BC Calculus as juniors, then take Multivariable Calculus as seniors. These students that take our Honors Algebra definitely get high school credit because it’s a more rigorous course than the ninth graders are taking, because the ninth graders taking Algebra in the high school are coming out of our Math 7 and Math 8 program; whereas these kids getting this highly enriched program get a stronger course, and they definitely get high school credit for it. This group of kids that are selected for Honors Algebra Accelerated are here because they need the challenge to keep involved in algebra and keep involved in mathematics.