

For Reviewers of the **Essentials of Algebra** Program

Attached are:

- a list of topics that are covered in the Exit Math program,
- Lesson 9,
- Lesson 27,
- Lesson 62, and
- Lesson 85.

The lessons illustrate something about the range of material that is covered and the intensity of each skill taught.

The program has 120 lessons. Students enter at either lesson 1 or lesson 16 based on their placement test results.

Lesson 9 is an early lesson that focuses on very basic operations that most of the students we've worked with don't know.

Lesson 27 illustrates some of the new operations students are taught, such as writing equations for problems that refer to "rate."

Note that the Independent Work reviews material taught in earlier lessons.

Lesson 62 presents more advanced work with the coordinate system, exponents, simultaneous equations, slope of lines on the coordinate system. Again, the Independent Work shows some of the skills students have been taught in the preceding lessons (such as positive and negative exponents).

Lesson 85 introduces probability and its assumptions. The structured exercises address similar triangles and solutions to a set of mixed statements—some of which are expressed with an equation and some with a statement of inequality.

Everything that is introduced has adequate provisions for teaching the skills to mastery, even for low-performing students who haven't learned much math beyond multiplication.

High School Exit Program: Essentials of Algebra

Lessons 1-15 topics include:

- Area and perimeter of rectangles, right and non-right triangles
- Rounding decimals
- Addition, subtraction and multiplication of decimals
- Fraction and mixed number conversions
- Fraction, decimal and percent conversions
- Equivalent fractions
- Addition, subtraction and multiplication of basic fractions

Lessons 16-115 topics include:

- Proportion, rate, expanded to problems including decimal values and data manipulation
- Coordinate system, all four quadrants
- Linear functions ($y = mx$; $y = mx + c$) which build from work on rate
- Algebraic solutions for two-step equations ($2x + 3 = 7$) and inequalities
- Algebraic word problems including fractions and decimals
- Simultaneous equations ($2R - 2B = -4$; $5R + B = 14$)
- Signed number operations extended to algebraic solutions
- Distribution in algebraic expressions and equations
- Extension of exponents to negative powers and scientific notation
- Statistical Information: mean, median and mode
- Interpretation of graphical information
- Probability of independent events
- Pythagorean theorem and problem-solving applications
- Corresponding angles and sides in similar triangles, with problem-solving extensions
- Fraction simplification for optimizing calculation efficiency
- Area and circumference of circles
- Decimal division

Program Components include:

- A CD with board displays prepared for projection.
- Student textbook
- Student workbook

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- Teacher presentation book
- Answer Key
- Teacher Guide