

# ACES MATH: Pre-Algebra

## Course Description

The main objective of this course is to study arithmetics of fractions and decimals as well as the concepts of percents and proportions. Students are assumed to be skilled with arithmetics for positive and negative integers already. At the completion of this course, students are expected to be skilled at arithmetics of different kinds of real numbers and will be prepared to study algebra and geometry.

**Prerequisite.** Students who take this course should be skilled in arithmetics of integers (positive and negative), including rules for mixed operations. The right preparation for this course is our ACES math course: Mental Math. A placement test is required for anyone who did not take the Mental Math course.

**Textbooks.** We recommend the following textbook for students to read:

Prealgebra, 5th Edition

Richard N. Aufmann, Vernon C. Barker and Joanne S. Lockwood  
Houghton Mifflin Company, 2009.

**Main Topics.** The main topics of this course include: (i) review of arithmetics of integers; (ii) arithmetics of fractions; (iii) decimals and related operations; (iv) measurements and proportions and (v) percents.

**Homework.** Learning mathematics is very similar to learning to play piano: you can not learn anything unless you practice a lot, and if you practice a lot you will be good at it. There is no shortcut here. Therefore, we will have a large (but still reasonable) amount of homework for the students after each lecture.

**Notes on Competition Track.** Students on the competition track are expected to work on harder (meaning more difficult and in larger amount) homework sets.

**Communications.** Students and their parents are encouraged to communicate with the instructor on issues directly related to the course, through the email address [aces.math.info@gmail.com](mailto:aces.math.info@gmail.com); For other issues related to the ACES after school program, please email [aces4kidsinfo@gmail.com](mailto:aces4kidsinfo@gmail.com) .