香 港 資 優 教 育 學 苑
The Hong Kong Academy for Gifted Education

Perspectives on Junior Secondary Mathematics–Algebra (E1MAT003C)

Introduction	Could anyone explain why "negative times negative becomes positive" (− × − = +)? This is an important foundation of mathematics known as algebra. Mathematics is not only a tool for calculation and proof, but also an essential problem-solving tool based on means of representation and algebraic methods. You will be surprised by applying algebraic skills in a wide variety of problem-solving situations. Typical examples are application of Remainder Theorem and solving equations using graphical methods learnt in senior secondary learning. This course is designed to help students understand key algebraic knowledge at the junior secondary level and to be equipped with the basic knowledge required for learning mathematics at higher level. The key content involves basic computation including powers operation, factorization skills, concept of solving equations and the study of concept of inequalities. This is one of the programme in the Subject Core Series which is comprised of four level I programmes. They are namely 1. Numbers 2. Algebra 3. Geometry 4. Statistics
Programme Type / Level	Algebra Course (Level I) (Token-required)
Instructor(s)	Mr. Li Kwok Kwan（Former Vice-Principal of TWGHs Sun Hoi Directors' College, Senior Secondary School Mathematics and Computer Teacher）
Pre-requisite	Students must have a good understanding of numbers and algebraic symbolism. All participants should also be able to handle basic indices and factorisation problems.
Target Participants	➢ P4 to P6 HKAGE student members ➢ Class size: 30
Medium of Instruction	English with English handouts
Certificate	**E-Certificate** will be awarded to participants who have: 1. attended **AT LEAST 3** sessions AND 2. completed all the assessments with satisfactory performance
Intended Learning Outcomes	Upon completion of the programme, the participants should be able to: • apply index laws to simplify, manipulate and evaluate expressions, • simplify and manipulate algebraic expressions, • understand the relations between different graphs and functions, • manipulate and solve linear inequalities strategically.

Screening

Please answer the screening question in the online application form.
*The screening question is designed to help the applicant understands the course level and the course content. The question must be answered by the student applicant and it can only be attempted once. The answer cannot be changed once the application is submitted. Selection is based on students' performance in answering the question. Only students who can demonstrate motivation and knowledge of Algebra in the screening question can be enrolled in the programme.

Application Deadline

1 Feb 2021
12:00 n.n.

Application Result Release Date

11 Feb 2021

If student members withdraw from the programme after the Application Deadline, the token will be deducted.

Schedule

Session	Date	Time	Venue（HKAGE）
1	6 Mar 2021	9:30 a.m.– 12:30 p.m.	Room 303
2	13 Mar		
3	20 Mar		
4	27 Mar		

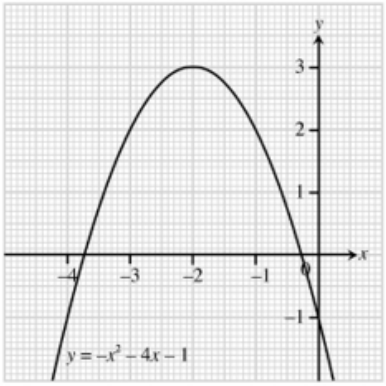
Sample Example for the Programme

1. Let $N = 999\,999^2 - 888\,888^2$. Which of the following is/are correct?

I. N is a prime number.
II. N is an odd number.
III. N is a multiple of 3.

2. Find the numbers of dots of 50th term in the following figure :

3. Solve the inequality $x^2 + 4x + 3 \leq 0$ by using the graph of function $y = -x^2 - 4x - 1$ given below.



Enquiries

For enquiries, please contact Academic Programme Development Division at 3940 0101 after language selection, press "1".