

# Mathematics Achievement Contest 2010

---

## Information Sheet

The Mathematics Achievement Contest (MAC) is a comprehensive mathematics contest jointly organised by the *Hong Kong Academy for Gifted Education* (HKAGE) and *Mathematical Database* (MD). It aims at arousing the interest of secondary school students in mathematics by conducting a mathematical study across different topics through project learning, and the final products will be served as website materials.

Other than broadening students' horizons and promoting the mathematics learning outside the classroom, the contest focuses on upgrading students' mathematics experience and offering them a stimulating and non-traditional mathematical opportunity. With the curiosity over numeral information and mathematical patterns and relationships, students could demonstrate their talents in the products by offering original interpretations of mathematical knowledge or modelling daily life problems as generalised mathematical situations. With the use of technology, they are encouraged to display the products in a creative manner.

The contest provides the chance for gifted students exchanging ideas among team members. The achievement of each team reflects the collaboration between students in different forms with their strengths in Mathematics, and the use of technology.

### **I. Participants**

Each team comprises two to five Secondary 1 – 7 students from the same secondary school with a teacher as the coordinator. A school may have more than one team participating in the contest and a teacher may also lead more than one team.

### **II. Rules for the contest**

1. Each team will design and work on their mathematical topic with the use of technology and the product will be served as website resources. The types of the finalised products do not have limits as long as they can be displayed on a webpage. Examples of the finalised products are web-based mathematical games, animations, comics and movies, etc.,. The finalised products which mainly involve texts such as articles or stories are also accepted, while multimedia elements should also be involved in the product, such as illustrating the content with the help of animation or original simulation software.
2. The contest should include the finalised product and a summary with an introduction, a main body, a conclusion, and a bibliography not more than 1000 words of the finalised products in

digit format. The summary should be grammatically correct and has been carefully proofread and the content of the summary should be concise either in Chinese or English.

3. The summary should include
  - The title of the finalised product;
  - The school name of the participants;
  - Study level and full names of the participants in both English and Chinese;
  - The description of the finalised product not more than 1000 words either in Chinese or English.
4. The specifications of the finalised product are as follows:
  - **Articles and stories** may be saved as .pdf, .doc or .odt files using word-processing programmes like Microsoft Word or Open Office. Accompanying figures may be inserted into the .pdf, .doc or .odt file. Alternatively, participants may submit such finalised products in the form of a webpage by putting all files into a folder and then creating a .zip, .rar or .7z file.
  - **Comics** may be saved as .jpg, .png, .gif or .bmp files or created a homepage, in which case all files should be saved into a folder and then create a .zip, .rar or .7z file.
  - **Movie clips** should be saved as .mov, .wmv or .mp4 files. Participants are advised to strike a balance between visual effect and limitations of web traffic in choosing the most suitable resolution.
  - **Mathematical game programmes** should be put in the form of a webpage, and all files should be saved into a folder and then create a .zip, .rar or .7z file. Participants may also save the file in .jar/.java (Java file) or .swf (Flash file) format. The name of the game, number of players, tools required, rules and the mathematical knowledge or techniques involved in the game should also be written and specified in both summary and product.
5. The finalised product and the summary can be written in either English or Chinese, but mixed mode of both languages is not allowed.
6. The participants must indicate all the references including books or websites.
7. If comics, movie clips and mathematical game programmes are accompanied by separate texts, the same specifications on articles will apply to the text part.
8. There are no restrictions on the number of words, colours and lengths, etc. of the finalised product, while consideration must be taken into so that the finalised products can be put on web.

### **III. Work Schedule**

29 Jan 2010 (Friday)	Briefing Session Time: 5:30 pm to 6:30 pm Venue: E303, Kowloon Tong education Services Centre, 19 Suffolk Road, Kowloon Tong
15 Mar 2010 (Monday)	Deadline for the submission to the HKAGE
Mar - Apr 2010	Preliminary Adjudication
Mid - Apr 2010	Announcement of the finalists
Mid - Apr 2010	Meeting with the panel of adjudicators
May 2010	Final Adjudication
Late Jun 2010	Prize-giving Ceremony

### **IV. Submission**

Each team is required to submit the following in order to participate in the contest:

1. The finalised product; AND
2. The summary.

All the forms can be downloaded from the websites of the HKAGE and MD.

Please submit a CD or DVD which contains the above items on or before 15 March, 2010 (Monday).

### **V. Adjudication**

All finalised products will be assessed according to the following criteria:

- (1) Originality and creativity
- (2) Relation to the topic chosen
- (3) Concise explanation of deep mathematics principles involved in the product
- (4) Lively and interesting interface or presentation
- (5) Educational value

The preliminary adjudication based on the finalised product and the summary. Outstanding products will be invited to have a meeting with the representatives of the panel of adjudicators, receiving feedbacks and be allowed to modify their finalised products. After the re-submission, the finalists will be undergone the final adjudication which decides the final result of the contest.

### **VI. Panel of Adjudicators**

1. Preliminary Adjudicators
  - The Committee members of MD
  - Mr YEUNG Ting Pong, Ronnie (Hong Kong Association for Science and Mathematics Education)

## 2. Final Adjudicators

- Prof AU Kwok Keung, Thomas (Department of Mathematics, CUHK)
- Dr CHEUNG Ka Luen (Department of Mathematics and Information Technology, HKIEd)
- Dr CHIANG Yik Man (Department of Mathematics, HKUST)
- Dr LI Kin Yin (Department of Mathematics, HKUST)
- Mr MAK Kwok Cheung, John (Student Programmes and Services, HKAGE)

## **VII. Announcement of Results**

The announcement of results will be posted on the website of the HKAGE and MD. Letters will be sent to the schools in late May, 2010. The prize-giving ceremony will be held in late June, 2010.

## **VIII. Awards and Prizes**

There will be 3 Distinctions and 3 Merit Awards. Trophies, Certificates of merit with Book Coupons will be presented in the Prize-giving Ceremony. The finalised products will be displayed on the websites of the HKAGE and MD.

## **IX. Copyright**

The HKAGE and MD reserve the right to publish in full or part of the finalised products, and they will not be returned to schools.

## **X. Other Details**

1. The finalised products must be the original work of the participants (reference and citation of others' works must be specified) and have not been published before in public means such as newspapers, magazines, competitions and on the web.
2. Participants who violate the above regulations will be disqualified.
3. In order to be fair, members of MD are not allowed to join this contest.
4. Briefing Session concerning the details of MAC will be held on 29 January, 2010 (Friday). Interested parties are encouraged to join. The reply slip for Briefing Session is attached.

## **XI. Homepage**

Please visit the following websites for the regulations and past results of the contest:

The Hong Kong Academy for Gifted Education: <http://www.hkage.org.hk>

Mathematical Database: <http://www.mathdb.org>

## **XII. Enquires**

For enquires, please contact Ms Shirley Kwok of the HKAGE at 3698 3502.