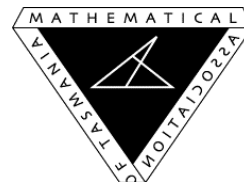# Mathematical Association of Tasmania

Mail: Competition Coordinator, PO Box 313, Sandy Bay TAS 7006
Email: Brett Stephenson, bstephenson@gyc.tas.edu.au

ATTENTION: Head Mathematics Teachers

The Mathematical Association of Tasmanian Problem Solving Competition is a mathematics competition focusing on problem solving and mathematical reasoning. Four divisions (Primary - Years 5 & 6; Junior Secondary - Years 7 & 8; Upper Secondary - Years 9 & 10; Senior Secondary - Years 11 & 12) sit a two-hour paper (one-hour for Years 5 &6) consisting of 10 - 12 questions of varying difficulty.

The questions are designed to elicit mathematical thinking and may require students to apply their mathematical thinking to topics outside of the standard curriculum or to link different topics of mathematics together which are traditionally taught separately. Each question may require some experimentation and different approaches before a student makes significant headway.

For each question, students need to explain their reasoning and working (using literacy as well as numeracy as necessary) to gain full marks for a question. A correct answer with little or no working will receive few marks. As such, students will not be able to complete all questions fully in the timeframe. They will receive a better mark if they answer several questions very well rather than many questions poorly.

Example Question

a) Write down the first ten prime numbers.
b) I picked two different prime numbers and multiplied them together. My answer was 51. What were my numbers?
c) How many numbers below 51 do **not** share a factor with 51? (For example: 15 and 35 share a factor as they both divide by 5, while 16 and 35 do not share a factor.)
d) Pick two different prime numbers and multiply them together. How many numbers less than your total do **not** share a factor with your total? Repeat.
e) I pick two more prime numbers: 3301 and 1030201. I multiply them together. How many numbers less than my total do **not** share a factor with the total?

The Mathematical Association of Tasmania will be conducting its Problem Solving Competition on **Thursday 22nd March** in 2018. It is important to adhere closely to the schedule outlined below so that the organisation of this state-wide competition runs smoothly.

If you are unable to run the competition on this date, contact Brett Stephenson a.s.a.p. via email at bstephenson@gyc.tas.edu.au

Participation Certificates can be awarded to all candidates. These will be included in the electronic distribution of the Competition Papers to schools on Tuesday 20th March 2018. Schools may present these to candidates as they leave the competition room or at a later date, for example to coincide with the release of the results. If the Participation Certificates are distributed at a later date, a list of candidates will need to be retained by the school.

Schools can choose to award a number of **School Achievement Certificates** to recognise worthy performances by non-prize-winning students within their school. The number of such certificates is left at the discretion of individual schools but is suggested to be at most 10% of the number of entries from the school. Teachers within the school may use their own criteria to select the students.

2018 COMPETITION SCHEDULE

By Friday 15th March   **ENTRY FORMS AND PAYMENT DUE**
Complete the entry form, **email** entry numbers to Brett Stephenson at bstephenson@gyc.tas.edu.au, and forward entry fees ($5 per student).

Tuesday 20th March   **COMPETITION PAPERS EMAILED**
Competition papers will be emailed to all entering schools by this date. **PLEASE CONTACT THE COMPETITION COORDINATOR VIA EMAIL ON MARCH 20th IF THEY HAVE NOT ARRIVED.** Each school will need to print and **securely** store the appropriate number of papers for their students. The paper is designed to be a single-sheet, double-sided paper.

Thursday 22nd March   **COMPETITION DAY**
Each school will allocate member(s) of staff to supervise the competition for two hours (one hour for primary), preferably in the morning. Students will require scrap paper for working out and lined paper for final solutions.

Friday 23rd March   **SOLUTIONS EMAILED**
Solutions to competition papers will arrive via **email**. Each school must examine their students' final solutions and forward their best five papers to the Competition Coordinator (email bstephenson@gyc.tas.edu.au or mail to Competition Coordinator, PO Box 313, Sandy Bay TAS 7006).

Thursday 29th March   **CLOSING DATE**
Thursday 29th March is the closing date for the "best few" scripts to arrive at Competition Post Office Box. Final marking cannot begin until **ALL** scripts are in so please keep to this date – we do understand that, due to the Easter break, scripts may have been posted on Thursday 29th but not arrive until the following week.

Results, certificates and prizes will be announced in Term 2, 2018.

Schools are asked to assist the MAT in the following ways:

1. Print/photocopy suitable numbers of the papers and store them securely.
2. Provide scrap paper for rough working and lined paper (A4) for final solutions (please staple these).
3. Supervise the competition.
4. Vet scripts after the competition and forward the best entries; in most cases this will mean between 1 and 5 scripts in each section (email preferred, but snail mail OK).

I trust that teachers will continue to give their students every encouragement to enter this worthwhile competition, which aims to identify mathematically gifted young people, attract interest in Mathematics and stimulate more enthusiasm in its study. Please note that the question papers have been set in such a way that all students should get satisfaction in solving some problems. Questions do not directly test traditional class work but seek to challenge and stimulate students with interesting problem solving situations where they can apply mathematical skills or methods.

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