SHORT CIRCUIT

Newsletter of the Canberra Mathematical Association INC

VOLUME 8 NUMBER 3

APRIL 2017

Coming Events:

May 27	*Prof Peter Sullivan at ACU*
July 11-13	*AAMT conference in Canberra*
August 19	*CMA Conference*
November 8	*AGM & dinner*

Wednesday Workshops:

May 24, 4-6 pm, Lumifold with SteamPOP—Kaleen Primary

May 31, 4-6 pm, Lumifold with SteamPOP—Canberra Grammar, The Edwards Centre

NEWS AND COMMENT

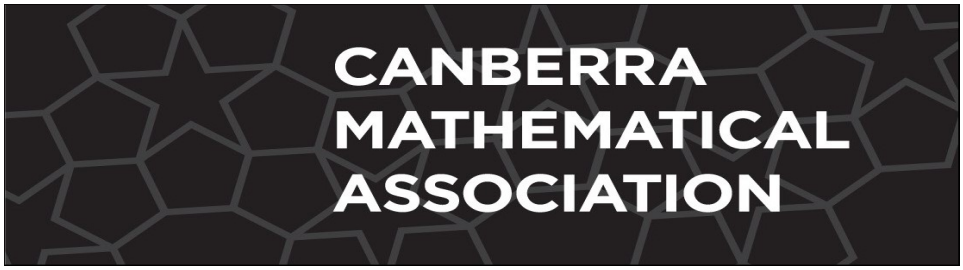
This year, CMA is offering an extraordinary two-for-one deal for attendance at the conference in August. See the notice on page five for details.

It is to be hoped that some readers will want to offer a workshop session at the conference. These are always rewarding for audience and speakers alike. There is a call for speakers on page six.

The reSolve—Maths by Inquiry program, has called for teachers who would like to be champions for the project. Over fifteen teachers from the ACT have applied, which is a healthy number. There is more on the reSolve initiative on page two.

Congratulations to former CMA president Jurek Paradowski who is to be the next president of AAMT. Jurek spent many years as a maths teacher at schools including Erindale College, Calwell High and Telopea Park School before his recent retirement from full-time classroom duties. We look forward to his leadership of our umbrella organisation.

While on the topic of local boys making good, we mention Chris Wetherell of Radford College who will deliver a keynote address at the AAMT conference in July. Chris has regularly been an inspiring workshop presenter at CMA conferences. Well done, Chris!



MEMBERSHIP

Join or renew your membership for calendar year 2017

A membership application form can be accessed from the CMA website: http://www.canberramaths.org.au/index.html

CMA membership includes automatic affiliation with the Australian Association of Mathematics Teachers and a free AAMT journal.

Members are entitled to attractive rates for CMA professional development events and the annual conference.

CMA members may attend conferences of other AAMT affiliates, MAV, MANSW, etc. at member rates.

Note: Receipts for membership and other payments are sent out by e-mail. If you have paid for your membership but have not received a receipt or if your AAMT journal(s) have not been arriving, please advise CMA membership secretary, Paul Turner, or another committee member.

reSolve—MATHS BY INQUIRY

INQUIRY QUESTION 1:

This grid of nine squares is part of a Hundreds Chart that has 1 in the top left corner, 10 rows of 10 numbers, and 100 in the bottom right hand corner.

a		
b		***d***
c		

The sum of the numbers *a*, *b* and *c* is 108. What number is in the square labelled *d*?

INQUIRY QUESTION 2:

The same grid is part of a number chart that has 1 in the top left corner, consecutive numbers across each row, but may have more or less than 10 columns.
The sum of the numbers *a*, *b* and *c* is 108. What number is in square *d*? What numbers might be in squares *a* and *c*?

INQUIRY QUESTION 3:

The same grid is part of a number chart that has 1 in the top left corner, consecutive numbers across each row, but may have more or less than 10 columns.
The sum of the numbers *a*, *b* and *c* is 105. What number is in square *d*? What numbers might be in squares *a* and *c*?

This is a trial task that we are working on for a sequence of classroom resources dealing with algebraic thinking in F to 4. We are pretty sure that Inquiry Question 1 is accessible to children in Years 3 and 4, especially with some enabling questions prompted by the teacher, such as:

Choose these 9 squares (e.g. 12, 13, 14; 22, 23, 24; 32, 33, 34) – what do the numbers in a, b and c add up to?

If we knew that the sum was 69, how would this help us to work backwards to work out c?

We included Inquiry Question 2 because it develops the interesting result that the number of columns does not matter – *b* is always 36. Instilling a sense of curiosity and wonder is something we have tried to incorporate into all our classroom resources. This is an example of an extending prompt, asking students to look more deeply or to investigate a related case.

Inquiry Question 3 looks identical to Inquiry Question 2, but introduces some very different mathematical ideas. We leave it to you to think about what makes it a different question. We think it's challenging for secondary students!

The reSolve project aims to develop engaging, structured and purposeful classroom resources that provide a springboard for promoting a spirit of inquiry in school mathematics. The classroom resources support and exemplify the principles articulated in the 8 professional learning modules. The project is also developing Special Topics, which are extended units of work with a STEM and problem solving/reasoning focus.

The resources in the project are built on the reSolve: Maths by Inquiry Protocol.

reSolve mathematics is purposeful;

reSolve tasks are challenging yet accessible;

reSolve classrooms have a knowledge-building culture.

To carry on the work of the project beyond its expiry in June 2018 we are also recruiting and training 240 Champions, who may be teachers or school leaders who wish to work with colleagues to promote inquiry

approaches to teaching and learning mathematics. We hope that the Champions will come from all sectors and levels of schooling, and will include experienced and new teachers, as well as those with particular interests related to special groups of students.

We would love to work with any teachers who wish to trial any of the classroom resources or Special Topics and give us feedback. The trialling can simply be teaching a lesson and giving us feedback, or we can visit and make notes. We are also happy to work with schools or faculties, or across schools, to trial and deliver the professional learning modules. Please contact Victoria Scharf at the Australian Academy of Science (Victoria.scharf@science.org.au) or Paul Turner (pturner@aamt.edu.au), who is the Outreach Officer for the ACT, if you would like to trial any of the resources, or go to our website www.resolve.edu.au.

INQUIRY QUESTION 4:

Try the above questions with your Year 3, 4, 5,…, 10 class and see what they do with it. Let us know! Let us know if you have any creative ideas for constructing an engaging and interactive lesson around these ideas

reSolve: Maths by Inquiry is managed by the Australian Academy of Science in collaboration with the Australian Association of Mathematics Teachers. It is an initiative of, and is funded by, the Australian Government Department of Education and Training.

Steve Thornton
Executive Director, reSolve: Maths by Inquiry (and the reSolve team)

CONFERENCES AND EVENTS

MERGA40 2017
Mathematics Education Research Group of Australasia Conference

The **MERGA40** Conference will be hosted by Monash University (Clayton campus, Melbourne, Australia), 2-6 July 2017.

Building upon the work of some of the world's most influential mathematics education researchers and practitioners, the MERGA40 conference will provide participants with the opportunity to engage in a range of professionally challenging and stimulating activities.

One Day Teacher & Pre-Service Teacher Registration: Wednesday 5 July 2017, $175

In addition, teachers can sign up for the Welcome Reception at the Synchrotron (guest speaker: Chief Scientist Dr Alan Finkle AO) and the conference dinner. More information and costs can be found on the MERGA website.

AAMT Conference—**Capital Maths**: Canberra Convention Centre, 11-13 July.
Keynote speakers:
Professor Christine Franklin, University of Georgia;
Dr Rhonda Faragher, University of Queensland;
Dr Peter Neumann, Oxford University;
Dr Chris Wetherell, Radford College, Canberra.
Visit the site for details.

CMA Conference, **Inclusiveness**.

19 August : ADFA. Keynotes—Bobbie Hunter (Massey), Chris Matthews (Griffith)

See pages 5 and 6 of this newsletter

MAWA/STAWA Conference—**STEM Education** 28 -29 September, Curtin University.

Call for presenters:

https://stawa.wufoo.com/forms/z1yyhepk1uqsucy/

NZAMT conference, **Back to the Future**. October 2017, Christchurch. Call for abstracts—click on the link.

NEWSLETTER OF THE CANBERRA MATHEMATICAL ASSOCIATION INC

PO Box 3572
Weston ACT 2611
Australia

E-mail: canberramaths@gmail.com

We're on the Web!
http://www.canberramaths.org.au/

ABOUT THE CMA

The Canberra Mathematical Association (Inc.) is the representative body of professional educators of mathematics in Canberra, Australia.
It was established by, among others, the late Professor Bernhard Neumann in 1963. It continues to run - as it began - purely on a volunteer basis.

Its aims include

* the promotion of mathematical education to government through lobbying,
* the development, application and dissemination of mathematical knowledge within Canberra through in-service opportunities, and
* facilitating effective cooperation and collaboration between mathematics teachers and their colleagues in Canberra.

THE 2017 CMA COMMITTEE

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http://www.facebook.com/pages/Canberra-Mathematical-Association/110629419011275

CANBERRA MATHEMATICAL ASSOCIATION

2017 *MATHEMATICS CONFERENCE*

Inclusiveness

Saturday 19 August 9–5

Australian Defence Force Academy

Keynote speakers

Bobbie Hunter Massey University NZ

Chris Matthews Griffith University & ATSIMA

Six sessions of talks/workshops for all levels

Great prizes ***All food + President's drinks***

Trade stalls ***Maths merchandise***

Registration: $50 member

$25 concession $70 non-member

Special 2017 offer: Bring a friend

2 persons for $70

Details and registration soon at

canberramaths.org.au

Contact: ***p.mcintyre@adfa.edu.au***

CANBERRA MATHEMATICAL ASSOCIATION

2017 *MATHEMATICS CONFERENCE*

Inclusiveness

Saturday 19 August 9–5

Australian Defence Force Academy

CALL FOR SPEAKERS

Contact *Valerie.Barker@ed.act.edu.au*

for more information.

Speaker information soon at

canberramaths.org.au