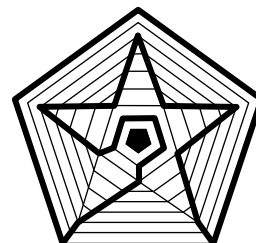


# SHORT CIRCUIT

Newsletter of the Canberra Mathematical Association INC

VOLUME 10 NUMBER 5 SEPTEMBER 2019



## NEWS AND COMMENT

### *Conference 2019—report*

One hundred and seventy-nine people, give or take, attended the conference. Judging by the feedback received, the event was, again, a success.

Keynote speakers Amie Albrecht and Jane Watson stimulated reflection on pedagogical practices and the many workshop presentations offered practical and thought-provoking ideas.

As well, participants were observed enjoying the collegial atmosphere, the opportunities for informal discussions and the good food.

CMA is grateful to UNSW - ADFA for the generous provision of the venue.

### *Annual General Meeting 2019*

To be relevant and useful, any professional association needs to renew itself continually. Mounting a successful annual conference, for example, depends on input from CMA members who know about the current needs of teachers at the chalk face.

At the AGM, a meal is shared and a new committee is elected for the coming year. Everyone is welcome at the AGM and there is no pressure to do

any more than enjoy the occasion.

However, education is evolving and modes of communication are changing. You may be a relatively new teacher but your insights and skills might be just what are needed to keep your professional association vital.

Please pencil in the date: 13 November, Erindale College. More information will be circulated closer to the event.

### *Maths 300*

Does your school have a subscription to [\*Maths 300\*](#)?

This resource was developed by Charles Lovitt with the intention of finding the 300 most interesting maths lessons from classrooms across Australia. It is currently owned and managed by AAMT.

If you would like to be involved in the work of revising existing material and creating new lessons, send CMA a message.

See page 6 for news of a term 4 Wednesday workshop about Maths300.

### **Coming Events:**

*13 November, 2019—AGM at Erindale College.*

### *Wednesday Workshops:*

*30 October—Maths300 at Hedley Beare Centre for Teaching and Learning, 4:30—6:00*

## MEMBERSHIP

The Canberra Mathematical Association is as good as its members.

**Memberships run from 1 Jan to 31 Dec. each year**

Membership forms can be accessed from the CMA website:

<http://www.canberramaths.org.au>

Membership of CMA includes affiliation with the Australian Association of Mathematics Teachers and a subscription to one of two AAMT journals.

As a member, you are entitled to attractive rates for the CMA annual conference and CMA professional development events.

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

**CANBERRA  
MATHEMATICAL  
ASSOCIATION**

PUZZLES

1. A cyclist rides his bike at an average speed of 20 km per hour from place A to place B. Without stopping to rest, he rides back to A at 10 km per hour. What was his average speed for the journey?
2. If A, B, C and D are the four different digits of a number ABCD, and if we know that  $4 \times ABCD = DCBA$ , then the value of the digits can be determined by using a bit of logic. Can you find the values?
3. Jane has two children and one of them is a boy. What is the probability that the other child is a boy also?
4. The number 58 can be expressed as the sum of the squares of 7 and 3. The number 29 can be expressed as the sum of the squares of 5 and 2. This wouldn't be at all interesting if it was not for the fact that half the sum of 7 and 3 is 5 and half the difference of 7 and 3 is 2, and half of 58 is 29.  
Is it true in general that if the number  $2n$  can be expressed as the sum of squares of  $x$  and  $y$  then  $n$  can be expressed as the sum of squares of  $u$  and  $v$  where  $u$  is half the sum of  $x$  and  $y$  and  $v$  is half the difference of  $x$  and  $y$ ?

More puzzles like these can be found at <https://www.mathematicalwhetstones.com/blog>

MORE RESOURCES

**AMT**—Australian Maths Trust  
<https://www.amt.edu.au/>

**CSIRO**—STEM professionals in schools program  
[www.mathematiciansinschools.edu.au](http://www.mathematiciansinschools.edu.au)

**reSolve**—Maths by inquiry  
<https://www.resolve.edu.au/teaching-resources>

AAMT

The professional associations of mathematics teachers in each Australian state and territory are affiliated with the Australian Association of Mathematics Teachers.

Membership of AAMT is gained automatically by joining one of the local associations, such as CMA.

Benefits for AAMT members include a range of resources accessible via the AAMT website. The journals Australian Primary Mathematics Classroom and Australian Mathematics Education Journal are published by AAMT and are distributed to members.

Visit the AAMT [website](#) to find out about the full range of AAMT resources.

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AAMT has five [Connect with Maths](#) online communities teachers can join.

[Make it count with Indigenous Learners](#) community

[Early Years Learning in Mathematics](#) community

[Maths in Action \(Applications and Modelling\)](#) community

[Engaging All Students](#) (Catering for Diversity) community

[Digital technologies for Mathematics](#) community.

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Also visit <http://topdrawer.aamt.edu.au> AAMT Top Drawer Teachers website.

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Download a complete PDF catalogue of resources sold by AAMT from [www.aamt.edu.au/Webshop/Catalogue](http://www.aamt.edu.au/Webshop/Catalogue).

CMA members can order items from the AAMT catalogue at a discount.

NMSS 2020

CMA has received applications from ten Year 11 students for the January 2020 National Mathematics Summer School.

The applications are now under consideration and recommendations will be made shortly.

## SHORT CIRCUIT

### CONFERENCES

#### MANSW

2019 MANSW annual conference.

*Mathematics: The Greatest Show.*

Crowne Plaza Terrigal, 20-22 September. The keynote speakers will be Matt Parker and Doug Clarke.

Submission of abstracts for presentations is now open. [See the website.](#)

#### MAV

*Making+Connections*

The Mathematical Association of Victoria invites you to the 56<sup>th</sup> Annual Conference ([MAV19](#)) in Melbourne from Thursday 5 – Friday 6 December 2019

#### ICME 2024

Sydney



### ANU—INTRODUCTION TO ACTUARIAL SCIENCE

The Australian National University (ANU) is running a special version of its popular [Introduction to Actuarial Science](#) course for Year 11/12 students in Australia.

The purpose of the course is to provide students considering an actuarial career with an interactive introduction to the profession. As such, it is a perfect fit for high school students who are strong in maths to find out if an actuarial degree would be good university program choice for them.

The course is FREE for all students. [Click here for more information and to register interest](#)

### AUSTRALIAN MATHS TRUST

The Australian Maths Trust has successfully bid to host the 2025 International Mathematical Olympiad. For the full release, please visit: <https://www.amt.edu.au/news/australian-maths-trust-wins-right-to-host-imo-in-2025>

### T3 AUSTRALIA BLOG

The Texas Instruments company supported the recent CMA conference. In return, we publish the following information.

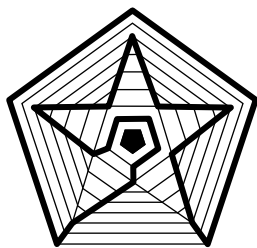
The **T3 Australia Blog** is here!  
<https://t3australia.blog/>

#### Why follow the blog?

- Register for FREE PD Events
- Watch Live or On Demand Webinars
- Download Featured Classroom Activities
- Read interesting articles by fellow teachers
- See which conferences we'll be at
- Be first to find out about giveaways

**Developed by Australia Teachers for Australian teachers** T3 (Teachers Teaching with Technology) Australia, Professional Development by Texas Instruments.

Our community is made up of mathematics and STEM educators from around Australia. We are united with a goal to assist fellow educators through quality professional development and support to enable them to be successful in the classroom.



**NEWSLETTER OF THE CANBERRA  
MATHEMATICAL ASSOCIATION  
INC**

PO Box 3572  
Weston ACT 2611  
Australia

E-mail: [canberramaths@gmail.com](mailto:canberramaths@gmail.com)

We're on the Web!

<http://www.canberramaths.org.au/>

## THE 2019 CMA COMMITTEE

President	Jo McKenzie
Vice Presidents	Bruce Ferrington Aruna Williams
Secretary	Valerie Barker
Treasurer	Paul Kruger
Councillors	Belinda Fox Rajesh Prasad Peter McIntyre Theresa Shellshear
Website	Vivienne Sheridan Steve Thornton
Memberships	Paul Turner Heather Wardrop Andrew Wardrop

## 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.

ACT Education Directorate  
Radford College  
Mount Stromlo High School  
  
Saint Mary MacKillop College  
  
Saint Mary MacKillop College  
Campbell High School  
University of NSW Canberra  
Australian Catholic University  
Canberra Grammar School



Short Circuit is edited by Paul Turner.

**ISSN 2207-5755**

**Find us on Facebook**

# Primary School Mathematics in Shanghai



**The Australian Association of Mathematics Teachers (AAMT) is pleased to offer primary school educators in Australia the opportunity to take part in a study tour to learn about mathematics education in primary schools in Shanghai.**

**The program will take place from 9-21 December, 2019.**

The visit is organised in conjunction with Shanghai Normal University, which runs the UNESCO Teacher Education Centre and has a well-established exchange program with the National Centre for Excellence in the Teaching of Mathematics in the UK.

Shanghai ranks among the top places in the world for achievements in mathematics in primary schools. The approaches used in schools in Shanghai have been adopted across schools in the UK and present a unique opportunity for professional learning for primary educators of mathematics in Australia.

<b>Mon 9 Dec</b>	<b>Arrival in Shanghai</b>
<b>Tue 10 Dec</b>	<b>Opening ceremony</b> <b>Workshop:</b> Mathematics in Shanghai primary schools <b>Welcome dinner</b>
<b>Wed 11 Dec</b>	<b>Seminar:</b> A review of curriculum and pedagogy
<b>Thu 12 - Fri 13 Dec</b>	<b>Placements</b> in Shanghai schools with host teachers (4 Australian teachers per school)
<b>Sat 14 – Sun 15 Dec</b>	<b>Free weekend</b> with cultural activities
<b>Mon 16 – Thu 19 Dec</b>	<b>Placements</b> in Shanghai schools
<b>Fri 20 Dec</b>	<b>Review and closing ceremony</b> <b>Free time</b>
<b>Sat 21 Dec</b>	<b>Departure from Shanghai</b>

**Cost**  
The program costs \$3250 (10% discount for AAMT members) including the professional program, accommodation (in single rooms), transfers, cultural activities and group dinner.

Participants are responsible for booking their own flights and incidental expenses such as meals during school placements.

To register your interest, please complete the online [form](#).



## MATHS300 WORKSHOP

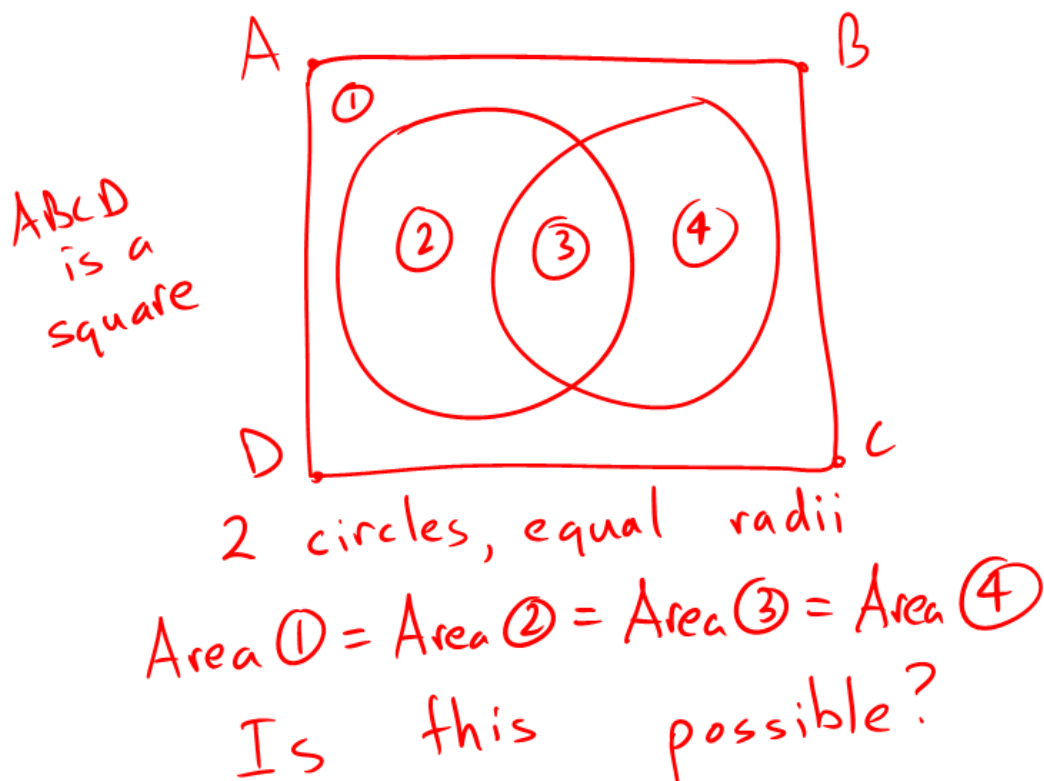
Greedy pigs, chocolate cakes and cracked tiles?  
Mushroom hunts and pizza toppings? These unlikely topics will be the focus for our Maths300 workshop to be held on Wednesday 30 October, 4:30—6:00 p.m. at the Hedley Beare Centre for Teaching and Learning.

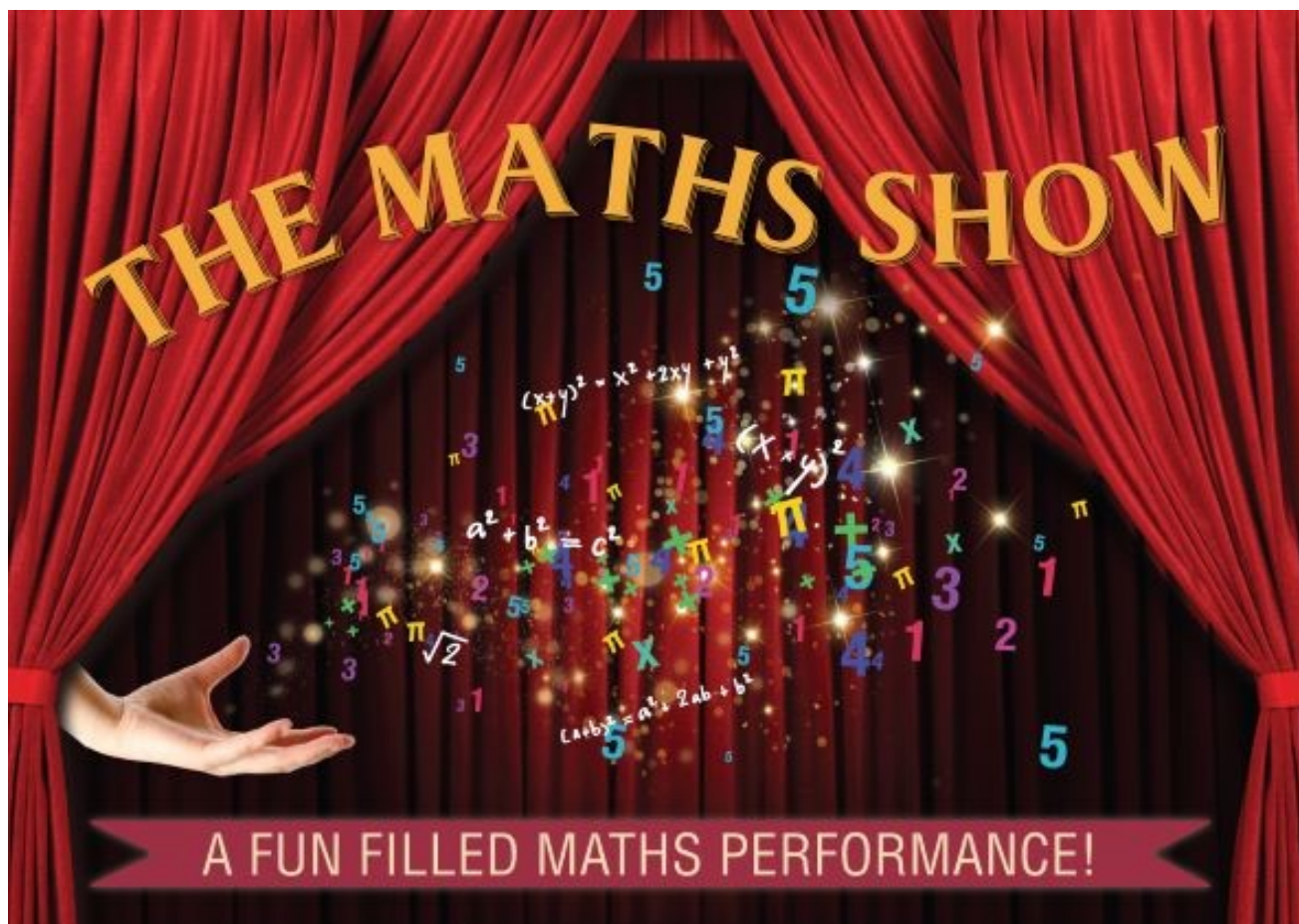
Bring the whole crew from your school to find out more about Maths300 and some exciting lesson ideas and challenges for your students. (Send us an [email](#) to let us know you are coming.)

Maths300 is an Australian resource, providing (almost) 300 interesting maths lessons taken from Australian classrooms and supported with technolo-

gy and written resources. These lessons can help you transform the thinking of the students you teach and provide the inspiration for an inquiry-based approach to maths in your classroom. These tasks are accessible to all. Teachers from kindergarten to college are encouraged to attend.

Presented by Bruce Ferrington,  
CMA vice president.





### See maths from a different angle with *The Maths Show!*

If you are looking for something a little bit different for your students in maths, then *The Maths Show* may be just what you need!

*The Maths Show* is a unique **live stage performance**, full of mathematical history, magic and puzzles – **delivered in-house at your school**.

The performance is highly engaging, lots of fun, has substantial audience involvement, and is great way to promote further interest in mathematics.

Two versions of the show are available, one designed for **Junior Secondary students**, and one for **Primary students**.

The show has been touring nationally for over two years and will be coming to the A.C.T. for the first time in the week beginning Monday 11 November, 2019.

Don't miss this unique opportunity to bring maths alive for your students in this never to be forgotten performance. To find out more, contact Felstead Education today:

<http://www.felstead.com.au/portfolio/themathsshow/>  
[info@felstead.com.au](mailto:info@felstead.com.au)  
 0402 223406

*'Our students really enjoyed The Maths Show. The presentation was absolutely what we were looking for to engage and educate our students. The performer was funny and thoroughly entertaining. The "follow-up" material helped to make the show even more relevant. We plan to book The Maths Show again.'* Vanessa Rich, Tintern Grammar