SHORT CIRCUIT

Newsletter of the Canberra Mathematical Association INC

VOLUME 14 NUMBER 11 NOVEMBER 2023

NEWS AND COMMENT

Your professional association, CMA, is about to conduct its Annual General Meeting. See page 2 for the time, place and other arrangements.

For catering reasons, we need to know that you are planning to attend. Please send us an email message.

The AGM is mostly a dinner and get-together with a very few minutes taken up with the business of the meeting. The business includes deciding who will be the committee members for the coming year. (See page 4 for the current lot.) As well we can expect short reports from the president and the treasurer.

The continued functioning of CMA depends on the dedicated volunteers who participate as committee members. Without them there would be no Conference, no Workshops, no Short Circuit newsletter, and no student Talent Quests, to mention a few of the regular CMA activities.

You would be valued as a committee member. But if you just want a good dinner with colleagues, please come along.

MEMBERSHIP

Memberships run from 1 Jan to 31 Dec. each year. Membership forms may be downloaded from the CMA website:
http://www.canberramaths.org.au

The several benefits of Membership of CMA may be found on the website.

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Coming Events:

AGM: Thursday 16th November 2023.

Conference 16th March 2024.

PUZZLE SOLUTION from Vol 14 No 10

Ages

This year my age is a multiple of 8. Next year it will be a multiple of 7. I am more than 20 years old but less than 80. What is my age?

What if my age now were a multiple of 7 and next year a multiple of 8?

(a) 48

(b) 63

NEWSLETTER

The CMA newsletter, Short Circuit, is distributed monthly to everyone on our mailing list, free of charge and regardless of membership status.

That you are receiving Short Circuit does not imply that you are a current CMA member, but we encourage you to join if you wish.

Short Circuit welcomes all readers.

CANBERRA MATHEMATICAL ASSOCIATION

AGM INVITATION

The Canberra Mathematical Association annual general meeting will be held on Thursday 16 November 2023, at the Thai House restaurant 22/14 Brierly Street, Weston (Cooleman Court).

The meeting will begin at 6:00 p.m. with an optional dinner to follow at 6:30 p.m.

Current and potential members are welcome.

If you wish to attend, please reply by email to CMA by 9 November. Let us know of any special dietary requirements you may have.

The cost of the dinner will be $30 which should be paid online to the CMA account: BSB 325-185, Account number 03408704 Canb Math Assoc.

YEAR 12 MATHS MEDALS

The CMA is once again making available to schools and colleges Mathematics medals for the best student in Year 12 Mathematics.

Please contact
Peter McIntyre (Kambah) on 0403 509 952
or Valerie Barker (Aranda) on 0410 151 554
to arrange collection.

NMSS 2024

The students have now been accepted for the National Mathematics Summer School to be held at the ANU in January.

CMA congratulates Jiajun Ding from Narrabundah College and Coral Onn from Dickson College.

MATHEMATICS EDUCATION AWARDS

Each year CMA makes awards recognising outstanding mathematics education students. The awardees from ACU are Isabelle Hoodcamp for Maths Ed Primary, and Morgan Murray for Maths Ed Early Childhood/Primary. From UC the awardees are Bernadette Matthew for Primary, and Yih Low for Maths Ed Secondary.

PUZZLES

1. **Transitivity**

In rugby union, if the All Blacks regularly beat the Wallabies, and the Wallabies regularly beat Fiji, then the All Blacks will very likely beat the Fijians. In maths this is the *transitive* property. We see it in the *greater than* relation: if $a > b$ and $b > c$, then $a > c$.

But consider this situation. Three dice A, B, C have had their faces re-numbered so that their spots are

A: 2, 2, 4, 4, 9, 9
B: 1, 1, 6, 6, 8, 8
C: 3, 3, 5, 5, 7, 7

Three players who we also call A, B and C corresponding to the die each holds, play in pairs. We claim that the probability that A beats B is 5/9. Also, the probability that B beats C is 5/9.

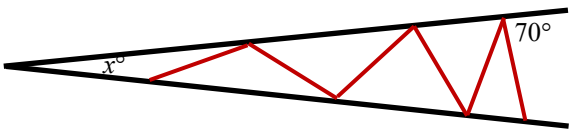
How likely do you think it is that A beats C?

2. The cat factor

This puzzle comes from The Canterbury Puzzles of 1907 by Henry Ernest Dudeney.

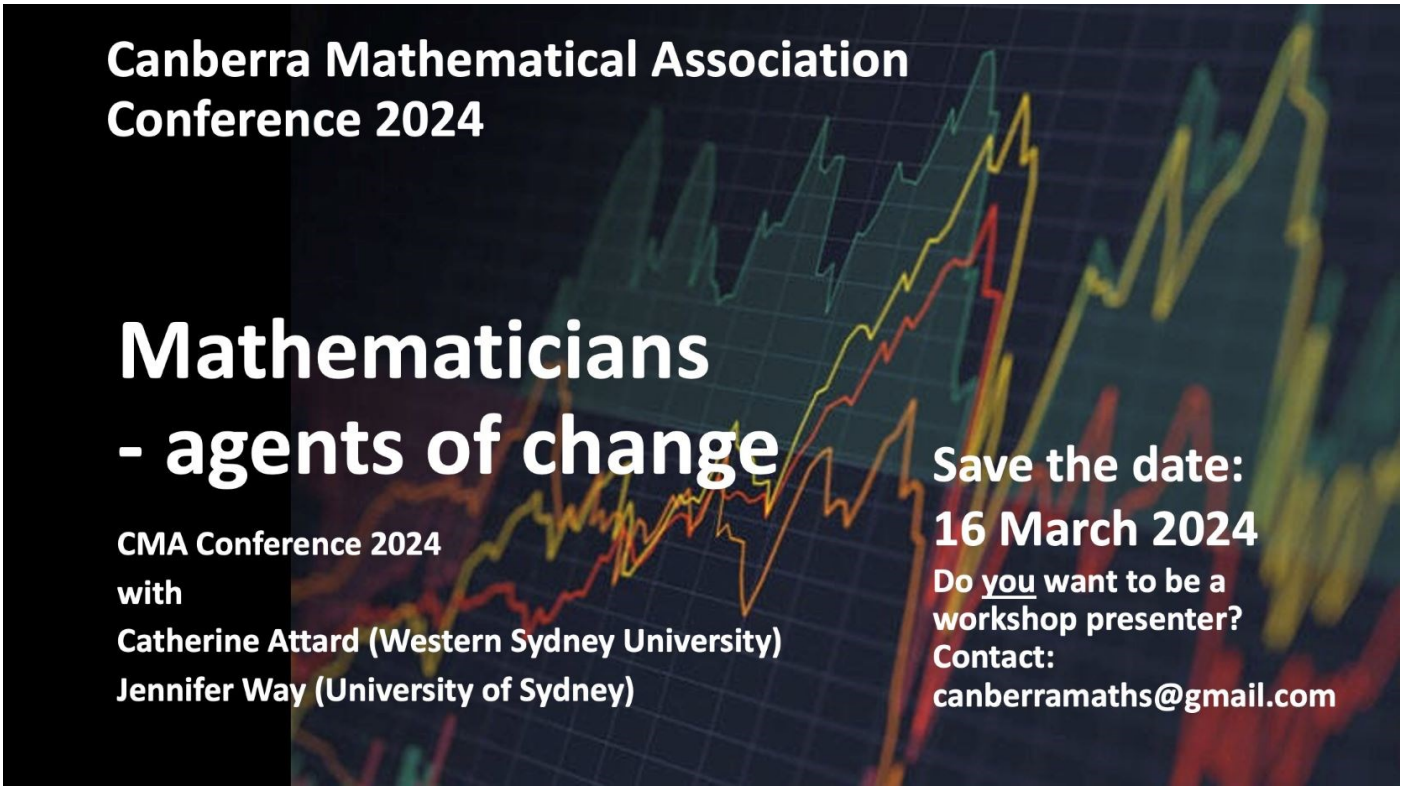
"It used to be told at St Edmondsbury," said Father Peter on one occasion, "that many years ago they were so overrun with mice that the good abbot gave orders that all the cats from the country round should be obtained to exterminate the vermin. A record was kept, and at the end of the year it was found that every cat had killed an equal number of mice, and the total was 1,111,111 mice. How many cats do you suppose there were?"

3. Angle *x*



The red line segments are equal in length.
Find angle x.
Is there a pattern? If so, how far could it be extended?

CONFERENCES



ICME-15

The International Congress on Mathematical Education is the largest international conference on mathematics education in the world. This quadrennial event is organised under the auspices of the International Commission on Mathematical Instruction and explores current global trends in mathematics education research and mathematics teaching practices at all levels.

The 15th International Congress on Mathematical Education (ICME-15) will take place 7-14 July 2024 at International Convention Centre in Sydney, Australia. ICME-15 promises to be an innovative congress that builds on the well-established ICME program, showcasing established and emerging thought leaders from around the world.

INDIGENOUS LEADERSHIP SUMMIT

14-17 November 2023, Sydney.

Back for its 4th year, the theme for 2023 is **#YourVoiceYourTime**

Click for details.

ALEA

Australian Literacy Educators' Accociation—**Leadership unconference** with John Caroll.

Click for details.

NEWSLETTER OF THE CANBERRA MATHEMATICAL ASSOCIATION INC

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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.

60 years ago

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 2023 CMA COMMITTEE

President	Aruna Williams	Erindale College
Vice Presidents	Bruce Ferrington	Radford College
	Jo McKenzie	ACT Education Directorate
Secretary	Valerie Barker	
Treasurer	Jane Crawford	Brindabella Christian College
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	Sue Wilson	
	Yuka Saponaro	Melba Copland Secondary School
	Joe Williams	
	Matthew Millikin	Marist College
	Roisin Boadle	Erindale College

Theresa Shellshear is CMA's COACTEA representative.

Bruce Ferrington is CMA's AAMT representative.

Joe Williams is the website manager.

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

re(Solve)
Designed by the AUSTRALIAN ACADEMY OF SCIENCE

DESIGN FOR LEARNING LAB

Multiplication and Division

Join the reSolve team for a free two-day Design For Learning Lab on teaching multiplication and division in the primary and lower secondary classroom.

Multiplication and division are important parts of the mathematics curriculum, but students often struggle to build deep understanding.

In this interactive workshop, participants will unpack the key ideas and skills in multiplication and division, and explore representations central to developing students' understanding and fluency.

Participants will also investigate learning sequences in the domain and contribute to the design of these sequences.

Cost	Free, catering provided
When	**24–25 October; 9am–3pm** *Attendance required both days*
Where	Academy of Future Skills, Caroline Chisholm School

Our Design For Learning (D4L) Labs are a new initiative of Australian Academy of Science Education. Participants will:

LEARN – Take a deep dive into a content area of mathematics and how to best teach it so that students develop a deep connected understanding of the topic.

DESIGN – Work with the reSolve team to design new learning sequences, to be released on the reSolve website in early 2024.

TEACH – Take the learning sequences back to your school, teach them to your class and provide feedback that will shape the new resources.

Participants of our D4L Labs will be acknowledged on the reSolve website and receive a certificate for 15 hours of self-identified professional learning aligned to AITSL standards.

Australian Academy of Science
Education

Register now at resolve.edu.au/d4l-Canberra

For further information please email education@science.org.au