SHORT CIRCUIT

Newsletter of
the Canberra Mathematical Association INC

Coming Events:

February 7-11	*ANZIAM Conference including Mathematics Education Workshop, February 9*
February 12	*CMA Welcome event at ACU, 4-7 p.m.*
February 20	*COACTEA PD:* Developing a Growth Mindset in Your Classroom, *at ACU*
March 7	*CMA Committee meeting, at AMT*
March 17—April 23	*International Mathematical Modelling Challenge*

Wednesday Workshops:

Term 1: to be advised.

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NEWS AND COMMENT

A new CMA committee for 2016, was appointed at the 2015 Annual General Meeting and dinner at Erindale College on November 11. The names of the members who accepted this challenge are listed on page 4. That there are four new names on the list attests to the ongoing vitality of the organisation.

At the AGM, new president Bruce Ferrington thanked outgoing councillors for their service, in particular Jurek Paradowski and Ed Staples.

Several events are set for the month of February. They are listed in the 'Coming Events' box, above. For the ANZIAM conference please visit the website: http://anziam2016.com/mathematics-education-workshop/

Whether you are a current member or not , you will be made welcome at the annual CMA 'welcome drinks' event at the Australian Catholic University. Traditionally, this has been a fine opportunity for informal networking with colleagues in mathematics education and perhaps a jumping-off point for further engagement with CMA activities.

Details of the February 20 COACTEA professional development event on Mindsets with James Anderson are to be found on page 5.

Further on in the year, students will have an opportunity to participate in an International Mathematical Modelling Challenge. This promises to be a valuable initiative, administered in this country by the Australian Council for Education Research. For details, including sample problems, go to www.immchallenge.org .

Planning is under way for the CMA Conference and for the Wednesday Workshop series. Further information will be circulated as it becomes available.

Congratulations to our umbrella organisation AAMT on turning 50 this year. Celebrations will ensue. Yes, CMA is older than AAMT!

CANBERRA MATHEMATICAL ASSOCIATION

MEMBERSHIP

Join or renew your membership for calendar year 2016.

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.

CMA MERCHANDISE

Contact Elaine Hooke on 0407 788 493 or e-mail cmamerchandise@gmail.com for the following items:

Canberra Mathematics Association Navy Polo shirts $36 with logo, Pi Earrings $15, Easy as Pi badges and Pi pins $8.

Free delivery to your ACT school. Elaine can attend your Maths staff meeting.

AAMT

AAMT office: http://www.aamt.edu.au/

Some resources:

Top Drawer Teachers – http://topdrawer.aamt.edu.au

AAMT—CONNECT WITH MATHS

There are now 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

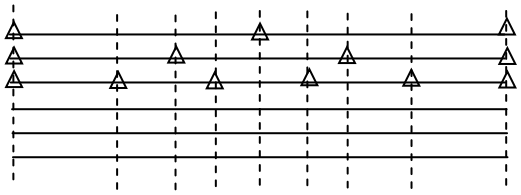
Digital technologies for Mathematics community

Subscription to these communities is FREE.
If you would like to join one or more communities, click on the link.

PUZZLE

How far can we see through a forest?

Imagine trees planted in rows. In the first row there are three equally spaced trees in a ten metre interval so that there are two spaces of 5 metres between adjacent trees. In the second row, directly behind the first, the trees are arranged so that there are three spaces of 3 1/3 metres each between adjacent trees in the row. Similarly, the third row has six trees with five spaces of 2 metres each between them.



We might continue adding rows in such a way that the number of spaces between trees in each successive row is the next biggest prime number and the spaces in a row are of equal size.

An observer, distant from the rows of trees, sees horizontal gaps in the forest. For a three-row forest, there are eight gaps.

How big are each of these gaps?

If another row is added, with eight trees, how many gaps will there be? What happens to the number of gaps as each new row is added?

How big is the left-most gap in the four-row forest and how big is the second gap from the left?

What has any of this to do with Olber's paradox?

CONTRIBUTE TO SHORT CIRCUIT

Send in your musings, your puzzles and your reports about activities and events you have participated in, your notices about coming events, or anything else that might be of interest to fellow mathematics educators. canberramaths@gmail.com

CMA MEMBERSHIP 2016 (JOURNALS)

When you join the Canberra Mathematical Association you become a member of the Australian Association of Mathematics Teachers. That organization publishes and distributes the journal(s) that come with your CMA membership.

AAMT has announced that it will no longer send out back issues of journals to members who renew their subscription after the first mail-out.

This means that if you join CMA later in the year you will still get a full year's worth of your chosen journal but your subscription will commence with the next available issue.

A reminder notice will be sent out shortly from the CMA Membership Secretary to recent and former members about membership renewal for 2016.

See the 'Membership' box on page 1 or click on the link.

MATHEMATICIANS IN SCHOOLS—CSIRO

Scientists and Mathematicians in Schools is managed by CSIRO Education. Visit the web address:

http://www.scientistsinschools.edu.au/index.htm

or contact Mathematics and Engineering Coordinator: Bronwyn Welch, 02 6276 6376

MATHS BY INQUIRY PROJECT

Readers may be aware that late in 2015 a joint project between AAMT and the Australian Academy of Science was awarded Federal Government funding to develop inquiry-based mathematics resources.

These resources for teachers and students will be produced over the next two years. Two of the writers for this project will be people familiar to many in Canberra - Michael Klinkert, CMA treasurer and Bruce Ferrington, CMA president. The third writer for the project is Kristen Tripet, consultant from AIS NSW.

The project is being led by Dr Steve Thornton (Executive Director), Professor Peter Sullivan and Emeritus Professor Kaye Stacey. It will be an interesting direction for mathematics education in Australia.

CANBERRA PRIMARY MATHS NETWORK

A group of primary teachers interested in maths education began meeting during 2015 at Kaleen Primary School under the leadership of Maggie Quigley. Maggie is a new addition to the CMA council for 2016 and brings an enthusiasm and passion for K-6 education. The Primary Maths Network will meet each term to look at specific areas of interest. The topic for Term 1, 2016 will be "Open Ended Tasks". Contact Maggie (Maggie.Quigley@ed.act.edu.au) for further details.

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 2016 CMA COMMITTEE

President	Bruce Ferrington	Radford College
Vice Presidents	Bronwyn Welch	CSIRO
	Sue Wilson	Australian Catholic University
Minute Secretary	Theresa Shellshear	Australian Catholic University
Treasurer	Michael Klinkert	St Edmund's College
Membership Secretary	Paul Turner	
Councillors	Andy Wardrop	Erindale College
	Heather Wardrop	Lake Tuggeranong College
	Patricia Tandy	Melrose High School
	Peter McIntyre	University of NSW Canberra
	Elaine Hooke	
	Valerie Barker	University of Canberra
	James Squires	
	Maggie Quigley	
	Kylie Robson	
	Mike Clapper	Australian Mathematics Trust
	Jo McKenzie	Namadgi School

Find us on Facebook

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

TQI 2016 ACT ACCREDITED PROGRAM

COACTEA
The Council of ACT Education Associations

Growth Mindsets

mindful by design

mindset works

James Anderson will present:

Developing a Growth Mindset in your Classroom

Date: Saturday, 20 February 2016
Venue: Australian Catholic University – 127 Phillip Ave, WATSON, ACT. Rm: B10
Time: 9:30am-3:30pm
Cost: $60 (Members of Education Professional Associations) $90 (non-members)
$25 Preservice students. All welcome. TQI Accredited PL.
A light morning tea and lunch will be provided.

Make a difference for all your students - This is an opportunity for you to create a classroom (and school) were all students are successful. You will develop skills and strategies to create a robust and enduring growth mindset in your students, to be successful now and throughout their lives. In this workshop James explores the beliefs people hold that create a Fixed Mindset. Drawing on neuroscience and other recent research in Learnable Intelligence, Acquisition of Excellence and Habits of Mind, James builds a complete understanding of how students (and teachers) can become highly successful. Focusing on student growth and the process of learning, James challenges you to think differently about content and standards. He will show you how to adopt both simple and powerful changes to your pedagogy to significantly improve student learning and counter a Fixed Mindset in your classroom and school. The Global Education themes of Identity, unity, interdependence and social sustainability are embedded and many practical strategies, ideas and resources will be shared.

Value Effort ***Increase Persistence*** ***Improve Student Motivation***

mindset works

James Anderson is fully certified by Mindset Works, co-founded by Stanford Prof. Carol Dweck, as a Growth Mindset Trainer. He is the first person in the world outside of Mindset Works to be certified, and he works closely with Mindset Works developing new resources for teachers around the world.

Registration essential as numbers are limited – book your place now!
RSVP: COACTEA Secretary jann.carroll@acu.edu.au by 10th February
Please transfer payment with your name directly to:
Commonwealth Bank of Australia, Branch: Gungahlin ACT; Account Name: Business Transaction Acct
COACTEA General Account - BSB number: 06 2915, Account number: 10000425
For further information visit: www.coactea.org.au

Australian Government
Department of Foreign Affairs and Trade

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