

Calendar, Terms 1 and 2**February**

- 20 Newsletter 2 copy to Editor
 28 HSC and SC Feedback and Advice Day,
 Macquarie University

March

- 16 Long Inservice: Mathematics Extn 1 starts, City
 9 Inservice: Spreadsheets in Maths, Prestons
 17 Long Inservice: Maths Extn 2 starts, Burwood
 19 Mathsearch expressions of interest due
 20 Dynamic Software, Woolwich
 ? Years 7–8 Assessment and Reporting, Strathfield.
 (Date to be determined)

April

- 8 Newsletter 3 copy to Editor
 9 Good Friday

May

- 4 Long Inservice: Mathematics Extn 1 finishes
 7 Talented Students' Day expressions of int. due
 11 Long Inservice: Mathematics
 14 Newsletter 4 copy to Editor
 19 Long Inservice: Mathematics Extn 2 finishes
 22 Dynamic Software (repeat), Potts Point

June

- 4 Investigating: Maths entry forms and fees due
 5 General Mathematics, Normanhurst
 11 HSC Lectures Day, ticket applications due
 14 Queen's Birthday
 18 Mathsearch student entries due
 18 Talented Students' Day, lecture choices/fees due

whenever possible, that we celebrate excellence in teaching, and that we recognize when individuals make a significant contribution to the profession.

I was recently honoured to be invited to attend a ceremony organized by the Professional Teachers' Council of NSW (PTC), at which The Honourable Dr Andrew Refshauge, Deputy Premier, Minister for Education and Training, and Minister for Aboriginal Affairs, presented Certificates of Appreciation to Presidents of several of the Professional Associations in NSW.

The certificate recognizes the voluntary work of the many members of MANSW who make a valuable contribution to mathematics education beyond their normal work commitments. In general, members receive no remuneration for their contributions and frequently give up evenings and weekends to organize inservice courses, prepare workshops, plan conference programs, read and edit journal articles, write articles, update the website, respond to proposals about Federal and State government initiatives, represent members on committees, as well as attend meetings. A recent tally of members who made such a contribution in 2003 revealed at least 150 (approximately 10 per cent of membership).

Some members of the profession have been actively involved in their associations for a significant period, and in recognition of this PTC has instigated an Outstanding Professional Service Award. In 2003, MANSW nominated Margaret Bigelow for her work, evidenced in the following extract from the citation:

In recognition of her significant and continuous contribution to the support of teachers and education in NSW through the Mathematical Association of NSW (MANSW) as President 2000–2001, Vice-President 2002–2003, Member of the Executive 1997–1999 and as AAMT Councillor 1999–2003.

Margaret has also represented MANSW on several committees including the Board of Studies Curriculum Committee (Mathematics K–10) and the National Professional Teaching Standards Committee.

From the President

Many people make a significant contribution to education through their involvement in work in schools, and other organizations such as Professional Associations like MANSW. Teachers have a key and important role to play in developing the talents and interests of their students. This is a valuable profession that brings many rewards, most of which occur in classrooms as students grapple with new ideas and experience enjoyment and success through their learning. The importance of the profession sometimes appears to be lost, particularly in negative media reports. It is critical that we continue to support teachers in their efforts, that we promote the profession

As well as this, Margaret will be the Convener of the AAMT Biennial Conference to be held in Sydney from 17 to 20 January 2005.

Each year PTC calls for nominations for this award in October, and as we can nominate up to three people, we encourage you to nominate those members who are deserving of this award.

As the majority of MANSW activities are organized by members, I encourage you to consider volunteering your time to assist in one of the portfolios. Being involved in a professional association is a wonderful professional-development opportunity as you meet other teachers and share ideas and experiences.

If you do not have time to be actively involved in the Association, I encourage you to continue to read the journals, attend the courses offered throughout 2004, and provide feedback so that we can continue to meet the needs of members. For country members, Annual Conference will be in Mudgee from 26 to 28 September, so I look forward to meeting you there. I hope that 2004 will be a rewarding and successful year for all members.

JUDY ANDERSON

Are you coming to the MANSW Annual Conference in 2004?

See the enclosed flier for more details

Secondary Program

We plan an exciting program in Term 1, starting with the HSC and SC Feedback and Advice Day, then spending time on both technology and the new Years 7–10 Syllabus. We are again presenting our very popular Mathematics Extension 1 and Extension 2 Long Inservice Courses. There will also be a General Mathematics course in Term 2. Please register early. We can only run our courses if sufficient people have registered by the closing date.

Later in the year, we plan to present more courses on the new Years 7–8 Syllabus and on technology. If you have requests for any courses in your area or you wish to host or present at a course or have particular topics in mind, please fax the MANSW office on (02) 9878 1675 or email mansw@math.nsw.edu.au. We try to build our program around teacher requests.

**HSC And SC Feedback And Advice Day
Saturday 28 February, 9.00 a.m. – 3.30 p.m.
Mason Theatre, Macquarie University**

Senior Markers will be present to discuss the marking and responses to all of the 2003 HSC

mathematics examinations and the 2003 mathematics School Certificate test.

HSC 2003 Solutions books will be available for collection by members and for purchase by non-members

Cost: Free to members / \$20 (non-members)

Prior registration is *not* required—just register at the desk and collect your copy of the 2003 HSC solutions if you were a member in 2003.

Registration will commence at 8.45 a.m. The opportunity to renew membership and purchase MANSW publications will be available at morning tea and lunch time together with tea and coffee. Participants will need to make their own arrangements for lunch. Please note there is a strictly enforced ‘pay and display’ parking-fee payable at machines scattered throughout the parking areas (correct change is necessary) The program for the day and a map of Macquarie University is enclosed with this newsletter.

Dynamic Software

20 March

Marist Sisters College

66A Woolwich Road, Woolwich

This course will provide an introduction to various dynamic geometry software packages. Participants will gain hands-on experience.

Cost: \$60 (members) / \$80 (non-members)

Includes a light lunch

Closing Date: 7 March

Prior registration is required for this course. Participants should complete a registration form included with this newsletter and send it with a cheque to the MANSW office. The registration form can be faxed if using Bankcard/Visa/Mastercard. The course will be cancelled if there are insufficient registrations by the closing date.

Note: *This course will be offered again in Term 2 on 22 May at St Vincent's College, Macleay Street, Potts Point.*

Year 7/8 Assessment and Reporting

Week 10 Term 1. Date to be confirmed
Strathfield Girls' High School

This course will provide teachers with the opportunity to discuss strategies for assessment of and reporting on student achievement in stage 4 of the new K-10 syllabus.

General Mathematics

Saturday 5 June, 8.30 a.m. – 3.15 p.m.

Loretto College

Pennant Hills Road, Normanhurst

This course will cover a range of topics from the General Mathematics course. More details will be given in future newsletters.

Long Inservice Courses

Teaching Mathematics
Tuesdays, 6.00–8.00 p.m.
9,16,23,30 March; 4, 11 May
William Carey Christian School
Bumbera Street, Prestons

This course will again cover a variety of topics of interest to teachers who have little previous experience of teaching the Mathematics course.

Cost: \$145 (members) / \$210 (non-members)

Closing Date: 25 February

Prior registration is required for this course. Participants should complete a registration form included with this newsletter and send it with a cheque to the MANSW office. The registration form can be faxed if using Bankcard/Visa/Mastercard. The course will be cancelled if there are insufficient registrations by the closing date.

Teaching Mathematics Extension 1
Tuesdays, 5.30–8.00 p.m.
16,23,30 March; 6, 27 April; 4 May
St Andrew's Cathedral School
Sydney Square

This popular course will again cover a variety of topics of interest to teachers who have little previous experience teaching the Mathematics Extension 1 syllabus.

Cost: \$145 (members) / \$210 (non-members)

Closing Date: 3 March

Prior registration is required for this course. Participants should complete a registration form included with this newsletter and send it with a cheque to the MANSW office. The registration form can be faxed if using Bankcard/Visa/Mastercard. The course will be cancelled if there are insufficient registrations by the closing date.

Teaching Mathematics Extension 2
Wednesdays, 6.00–8.30 p.m.
17, 24, 31 March; 7, 28 April; 5, 12, 19 May
MLC School
Rowley Street, Burwood

This popular course will again cover a variety of topics of interest to teachers who have little previous experience teaching the Mathematics Extension 2 syllabus.

Cost: \$195 (members) / \$280 (non-members)

Closing Date: 4 March

Prior registration is required for this course. Participants should complete a registration form included with this newsletter and send it with a cheque to the MANSW office. The registration form can be faxed if using Bankcard/Visa/Mastercard. The course will be cancelled if there are insufficient registrations by the closing date.

Secondary Publications

Solutions to the 2003 HSC Examination Papers

Thank you to the members who gave their time on Saturday 29 November to edit and prepare the solutions to the 2003 HSC examination papers, and to those members who sent in their solutions. The solutions will be available at the HSC and SC 2003 Feedback and Advice Day.

List of participants: Derek Buchanan, Yue-Yan Chan, Mark Douglass, Jim Farmer, Col Holliday, Chris Horley, Scott Lankshear, Sharon London, Greg Murty, Rod Selden, Barbara Stewart, Anthony Tong, Nikky Vanderhout, and Robert Yen.

Solutions were sent in from Margaret Bigelow, Michael Boyd, Sandra Britton, Tony Brunson, Holly Gyton, Rene Hutchins, Paul Jones, Terry Lee, Beatrice Maricic, Phil Milner, Peter O'Brien, Nigel Simmons, Margaret Wood, and Ian Woodhouse.

Errata for MANSW HSC Solutions Books

Please note the following errata in your copies of past MANSW solution books. The following solutions will appear in this year's student books (and in subsequent years).

1. General Mathematics: 2002 HSC Question 27 (b) (i) (Student book only)

(Note that the correct solution appeared in the teacher book, but an incorrect solution appeared on page 20 of the student book.)

Need to know PS . Let $PS = x$ and $QS = h$.

Use Pythagoras's theorem twice.

(i) Need to know PS . Let $PS = x$ and $QS = h$.

Use Pythagoras's theorem twice.

In $\triangle QRS$:

$$h^2 + 4^2 = 5^2$$

$$h^2 = 25 - 16$$

$$= 9$$

Therefore $h = 3$.

In $\triangle QPS$:

$$x^2 + h^2 = 7^2$$

$$x^2 = 49 - 9$$

$$= 40$$

Therefore $x = \sqrt{40}$

$$= 6.3 \text{ (1 d.p.)}$$

Therefore Perimeter of $\triangle PQR = 7 + 5 + 4 + 6.3$
 $= 22.3 \text{ cm (1 d.p.)}$

2. 2/3 Unit (common) Mathematics: 1994 HSC Question 10(a)(iii)

Final answer needs to be fixed so that the first operation sign is a +, not a \times . The final answer should then be:

$$\therefore \text{Probability} = \frac{1}{9} + \frac{1}{9} \times \frac{13}{18} + \frac{1}{9} \times \left(\frac{13}{18}\right)^2$$

3. 2/3 Unit (common) Mathematics: 1997 Question 9(a)(iv)

Please replace solution with the following:

P(Having dropped a red ball, that the ball still hidden is also red) = $\frac{1}{3}$.

Several methods could be used to arrive at the answer.

Method 1

From the second tree diagram in (i), there are 12 equally likely outcomes:

RR, RB, RW, RR, RB, RW, BR, BR, BW, WR, WR, WB.

Arranging these in matching pairs:

RR, RR; RB, RB; RW, RW; BR, BR; BW, WB; WR, WR.

One ball is dropped. Denote this by underlining the dropped ball (e.g. RB means the red ball is dropped, while RB means the black ball is dropped).

By considering each matching pair, this gives:

RR, RR; RB, RB; RW, RW; BR, BR; BW, WB; WR, WR.

Need to only consider possibilities in which the red ball is dropped. This leaves only six possibilities:

RR, RR, RB, RW, BR, WR.

Of these possibilities, the remaining ball is red in two cases, so

P(Having dropped a red ball, that the ball still hidden is also red) = $\frac{2}{6} = \frac{1}{3}$.

Method 2

The two balls to be selected from the bag are any two balls selected at random from: red, red, black, white.

We see that a red ball is dropped, so the unseen ball is equally likely to be one of: red, black, white.

\therefore P(Having dropped a red ball, that the ball still hidden is also red) = $\frac{1}{3}$.

Student Services Activities

There is a summary of dates and prices for all Student Activities for 2004 for you to put on your notice-board included with this newsletter.

Mathematics Enrichment Groups

The mathematics enrichment groups are school-based clubs that offer the opportunity for students in Years 9–12 to work on interesting and challenging maths problems in a friendly and supportive setting. They can involve more than one school (with the meetings held after school) or could be set up within a single school (if possible students cannot attend a multi-school group). The idea is that students often learn best and gain most enjoyment from maths when they are able to interact with other students with similar interests. A set of problems is faxed to the groups every week from the School of Mathematics and Statistics at the University of Sydney. Students can send their solutions to the University to be published in the weekly enrichment-group newsletter. The problems are available on the web each week. Further information about the groups can be found at www.maths.usyd.edu.au and click on the link to Mathematics Enrichment Groups. Please read the information provided there. If you are interested in setting up a group in your school or having your students join a group in your area, contact Jenny Henderson, email jennyh@maths.usyd.edu.au, phone (02) 9351 2005, fax (02) 9351 4534. The starting time for 2004 is anticipated to be the beginning of March.

Member of the Month

This month's lucky winner is Robyn Coombes of Beechwood. Congratulations, please contact the MANSW Office to claim your book voucher prize.

**Copy for Newsletter No. 2 is due by 20/2
Publication date is 8/3.**