

Calendar, Terms 1 and 2	
February	
23	Newsletter 2 copy to Editor
24	HSC & SC Feedback and Advice Day, Macquarie Uni
March	
2	Mathsearch Expression of interest and payment due
19	Extension 2 Long Inservice starts, Menai
21	Extension 1 Long Inservice starts, Greystanes
29	PAM Inservice, Patterns & Algebra, Glenwood
April	
5	Newsletter 3 copy to Editor
6	Good Friday
May	
4	Mathsearch entries due
4	Talented Students' Day: expressions of interest due
16	Extension 1 Long Inservice finishes
17	PAM inservice, Data, Abbotsleigh (tbc)
18	Newsletter 4 copy to Editor
21	Extension 2 Long Inservice finishes
June	
1	Investigating: Mathematics entry forms and fees due
8	HSC Lectures Day: ticket applications due
11	Queen's Birthday
15	Talented Students' Day: lecture choices and fees due
29	Newsletter 5 copy to Editor
July	
2	HSC Lectures, Sydney University
20	Talented Students' Day, University of Sydney

From the President

Happy New Year to all MANSW members! I hope that your holidays were refreshing and that you are ready for the 2007 school year.

At the end of 2006, the Board of Studies concluded the first phase of the review of the Stage 6 Mathematics courses. This Syllabus Review phase included oral submissions, written submissions, school surveys, a Symposium, a literature review, and an annotated bibliography. Reports from these activities will be made available by the

Board of Studies during 2007. This year will see the beginning of Phase 2—the development of a writing-brief for the draft syllabus that takes account of the broad directions established during the Syllabus Review phase. Further consultation, with groups such as MANSW, is an important part of this next phase of the project and MANSW will continue to seek your opinion on the important issues. Keep your eyes on newsletters and our website for further details and timeframes as soon as they become available.

Over the holidays, MANSW has been busy writing HSC solutions, preparing journals and planning the first of our many inservice courses for the year. For secondary teachers, the 2007 inservice program begins with the *2006 HSC and SC Feedback and Advice Day*, which will be held at Macquarie University on Saturday 24 February. This is a unique opportunity to hear advice directly from the teachers who marked the SC and HSC last year—one not too miss! For primary teachers, the first inservice course of the year, *Patterns and Algebra*, will be held on 29 March—register early for this one to avoid disappointment!

The highlight of our inservice program is always the *MANSW Annual Conference!* In 2007 we are returning to Port Macquarie from 30 September to 2 October, so put the date in your diary now because we should love to see you there. MANSW members who register before the end of June receive substantial discounts on conference registration, so be sure you renew your membership and register for the conference as early as possible. Further details of the full inservice program, a calendar of events, Luna Park dates, details of MANSW publications, and the conference are regularly updated on our website (www.mansw.nsw.edu.au) so be sure to check regularly for all the latest news. Why not make MANSW the home page on a computer in your staffroom?

Each year the NSW Government awards a number of *Premier's Teacher Scholarships* to teachers working in any school or TAFE in NSW. The purpose of the Premier's Teacher Scholarships

Program is to promote teaching excellence in NSW by providing travel scholarships to NSW teachers to undertake a study tour overseas or in Australia. In 2007 Mathematics is again one of the areas being targeted for these scholarships. Applications close on 4 May 2007 and must include a detailed study proposal of 1000 words or less setting out how the proposed study will promote teaching excellence in NSW. More details are available on the MANSW website and we hope many members will consider applying.

As you can see, 2007 promises to be another busy, exciting year in mathematics education in NSW. As always, the volunteers that form the MANSW executive and the subcommittees aim to support all of our members and we are always looking for new volunteers to help in even the smallest way, so please send an email to the office if you would like to be more involved in your association this year—we should love to hear from you! I hope that 2007 will be a rewarding and successful year for all MANSW members and I look forward to seeing you at a MANSW event soon.

HOLLY GYTON

Secondary Program

An exciting program is planned for Semester 1, starting with the HSC and SC Feedback and Advice Day. Again we are presenting the very popular Extension 1 and Extension 2 Long In-service Courses, as well as practical assessment and helpful ideas for beginning teachers. Details of the full Secondary Program are continually revised on the MANSW website (www.mansw.nsw.edu.au). Please register early for courses as we can only run our courses if sufficient people register by the closing date.

If you have requests for any courses in your area or you wish to host or present at a course or have particular courses in mind, please contact the MANSW office (by fax: (02) 9878 1675 or email: office@mansw.nsw.edu.au). We try to build our program around teacher requests.

HSC and SC Feedback and Advice Day
Saturday 24 February, 8.45 a.m. – 4.00 p.m.
Mason Theatre, Macquarie University

Senior Markers will be present to discuss the marking and responses to all of the 2006 Mathematics HSC examinations and the 2006 Mathematics SC Test. HSC 2006 Solutions books will be available for members and for purchase by non-members. Please see the enclosed flier for the program of the day and a map of Macquarie University.

Cost: Free to members / \$20 for non-members.

Prior registration is *not* required for this course—just register at the desk and collect your copy of

the 2006 HSC solutions if you were a member in 2006.

Registration will commence at 8.45 a.m. There will be an opportunity to renew membership and purchase MANSW publications at morning tea and lunch time. Tea and coffee will be provided, but participants will need to make their own arrangements for lunch (as it is university vacation time the only food available on the campus will be from some vending-machines). Please note there is a strictly enforced 'pay and display' parking-fee payable (\$10) at machines scattered throughout the parking areas (correct change is necessary).

Long Inservice Courses

Prior registration with payment is required for the following courses. Numbers are limited, so if you would like to attend you should complete a registration form (available on the MANSW website) and send it *with payment* to the MANSW Office as soon as possible so that you do not miss out. The course will be cancelled if there are insufficient registrations by the closing-date.

Teaching Mathematics Extension 1
Wednesdays, 5.30–8.00 p.m.
21, 28 March; 4 April; 2, 9, 16 May
Greystanes High School
Beresford Road, Greystanes

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: \$150 (members) / \$225 (non-members)
Closing Date: 7 March 2007

Teaching Mathematics Extension 2
Mondays, 5.30–8.00 p.m.
19, 26 March; 2, 23, 30 April; 7, 14, 21 May
Aquinas College Menai
Anzac Road, Menai

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: \$200 (members) / \$300 (non members)
Closing Date: 7 March 2007

**Remember our new email
address**

office@mansw.nsw.edu.au



**2007 MANSW Conference
at Port Macquarie
30 September – 2 October**

We'd love to see you there!

See the attached flier for further details and remember to put the conference dates into your diary now!

Student Services

In 2007 Student Services has five major activities: Maths at Luna Park, the Investigate Maths Competition, Mathsearch competition, HSC lecture series, and Talented Students' Day.

A summary of these activities is included with the newsletter as a ready reference to pin on your staffroom noticeboard. Also included with the newsletter is information about the Mathsearch competition. This is the event for your talented students, usually in Year 11. We have adjusted the timeframe slightly to allow more flexibility of timing to help your talented students to fit this into their already busy schedules. Previous entrants have commented on how much they have enjoyed this competition, so please encourage your students to have a go. Entry forms and payment are due at the MANSW Office by 2 March.

More details of these and other student service activities are continually updated on the MANSW website throughout the year.

The stories we tell



In 2010 MANSW will be celebrating its centenary. One of the ways we plan to mark this important milestone is with the publication of a book with the working title, *The Stories We Tell*. In this book we would like to record the 'little things we do and say' in our classrooms. This book will be more than a snapshot of our members at our centenary. It will be a valuable resource for experienced teachers and those new to the profession.

All MANSW members are invited to contribute to *The Stories We Tell*. Please share a joke, story, poem, song, a way to remember a procedure or fact, or anything you use to help your students learn their Mathematics. The names of contributors will be included in the book along side their contribution. The form to accompany each contribution to this exciting publication is available on the MANSW website and we would love to have a contribution from every school in NSW.

The MANSW members compiling *The Stories We Tell* are volunteering their services and any money received from the sale of the book will be used to support MANSW activities and services for members.

What year is this?

You already knew it was 2007 (MMVII) in the Gregorian calendar. It is the seventh year in the twenty-first century and in the third millennium. It corresponds to the years 5767–5768 in the Hebrew Calendar, 5108–5109 in the Hindu Calendar, 1427–1428 in the Islamic Calendar, and 1385–1386 in the Iranian Calendar.

It has been designated the International Polar Year and the International Heliophysical Year.

Most of 2007 overlaps with the Chinese Calendar *Year of the Pig* (dates until February 17 are still in the *Year of the Dog*). The next *Year of the Pig* will start in 2019.

Western Astrology, 2007 is the year of the sign *Pisces*.

Further details can be found at en.wikipedia.org/wiki/2007

2006 HSC Solutions

Sincere thanks must go to the members who donated their time and experience on Saturday 2 December 2006:

Si Chun Choi, Mary Coupland, Ted Duffy, Ann Fletcher, Col Holliday, Chris Horley, David Keanan-Brown, Sharon London, Jeffrey Mizzi, Greg Murty, Svetlana Onisczenko, Rod Selden, Barbara Stewart, Greg Tobin, May Wassef, Heather Weber, Cath Whalan.

Their efforts in writing and editing solutions to the 2006 HSC examination papers have enabled MANSW to provide this valuable resource to colleagues and their students for yet another year.

Special thanks must also go to members who submitted their solutions:

Rani-Maria Antony, Donald Cartwright, Stan Condous, Holly Gyton, René Hutchins, Terry Lee, David Mitchell, Rema Nath, Phil O'Rourke,

Patrick Parker, Binh Pham, Nigel Simmons, Udaya Thangasamy, Anthony Tong, Tony van Rovenstein, Margaret Wood, Ian Woodhouse, Robert Yen.

The Solution Books will be available at the HSC and SC Feedback and Advice Day on 24 February.

Member of the Month

This month's lucky winner is Julie Brown of Oatlands. Congratulations, please contact the MANSW Office to claim your book-voucher prize.

**Copy for Newsletter No. 2 is due by 23/2.
Publication date is 12/3.**

Errata

for MANSW HSC Solution Books

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

Note: If you or your students notice mistakes in any of the MANSW Solution Books, please notify the MANSW Office by email, fax, or mail so that the relevant corrections can be made.

1. Mathematics: 2005 HSC Question 6(b) (pages 8 and 9)

Insert absolute value signs around $\frac{dV}{dt}$. The solution should read:

(ii) Rate of draining = $\left| \frac{dV}{dt} \right|$.

In this case, $\frac{dV}{dt} < 0$ as the water is draining out of the tank.

(iii) Fastest rate when $\left| \frac{dV}{dt} \right|$ is a maximum.

Also, in *METHOD 2*, insert absolute value signs around $\frac{dV}{dt}$ so it reads $\left(\left| \frac{dV}{dt} \right| \right)$.

2. Mathematics: 2005 HSC Question 7(b)(ii) Method 3 (page 10)

The graph of $\frac{d^2x}{dt^2}$ implies a maximum at $t = 6$. This is not necessarily so.

3. Mathematics: 2005 HSC Question 10(a)(ii) (page 12)

The expansion of $(\alpha - \beta)^2$ contains an error in the third line. It should read:

$$\begin{aligned}(\alpha - \beta)^2 &= \alpha^2 - 2\alpha\beta + \beta^2 \\ &= \alpha^2 + 2\alpha\beta + \beta^2 - 4\alpha\beta \\ &= (\alpha + \beta)^2 - 4\alpha\beta \\ \text{i.e. not } &(\alpha - \beta)^2 - 4\alpha\beta.\end{aligned}$$

4. Mathematics: 2002 HSC Question 5 (c) (page 8)

The third line should read:

$$y + 12 = (x - 4)^2 \quad (\text{not } y - 4 = (x - 4)^2).$$

5. Mathematics Extension 1: 2004 HSC Question 7(b)(ii) (page 13)

The last line should read:

$$\begin{aligned}\binom{n-1}{k-1} + \binom{n-2}{k-1} + \dots + \binom{k-1}{k-1} &= \binom{n}{k} \\ \text{i.e. not } &\binom{n-2}{k-2}.\end{aligned}$$