

TERM 1, 2026

# MANSW Newsletter

## MESSAGE FROM THE PRESIDENT

Welcome to 2026!

I'm looking forward to the year ahead and to meeting up with teachers at our MANSW events planned for this year.

Our K-8 Conference is fast approaching so make sure you [register](#) and tell your teacher friends about the event. This year we are back at Bankstown Sports Club on **Saturday 13<sup>th</sup> June** with the theme **Ignite Passion. Inspire Learning**. There will be a fantastic keynote from Associate Professor Jennifer Way on Representations and the critical role of drawing and visual tools in concept development. There will also be a range of other practical workshops. So please join us!

I was recently reading an article Jo Boaler from Stanford University wrote at the end of last year titled [Encouraging productive mathematical thinking and reasoning through pedagogical variety](#). Her paper resonates with my own philosophy of teaching and more importantly of how learning occurs. She makes the point that

*“Students can learn mathematics well in different ways - sometimes from a teacher introducing an idea from the whiteboard, sometimes from sitting alone thinking through a problem, and sometimes from working in pairs or groups, reasoning and problem solving together.”*

It's an important reminder at the start of a new year, that what works for some students, won't work for all, and that strategies and approaches that worked with last year's students, may need to change.



## Newsletter Highlights

Message from the  
President

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Consultancy

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Out and About with  
MANSW

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Faculty Review

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One thing Jo Boaler does emphasise, that no matter:

*“Whatever the pedagogical approach we use, we should always want students to be thinking deeply about mathematics.”*

Building a rapport with your students in Term 1 and creating relationships in the mathematics classroom is important. Sharing both about yourself and mathematics in your life is one way to connect to students. I love cooking and looking for insect species in my garden. So for me, using photos related to my passions would be a good way to bring mathematics in nature – and noticing and wondering, into the classroom.



Well, I hope you have had a great start to your year, and I look forward to seeing many of you throughout the year!

Katherin Cartwright  
President MANSW

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***Have you renewed your MANSW membership?***

*Renew today to ensure you have continued access to all membership benefits.*

**RENEW**



As we count down to the upcoming MANSW K–8 Conference, we are delighted to spotlight keynote speaker Dr Jennifer Way, whose extensive work in early childhood and primary mathematics continues to shape contemporary practice. In a recent in-depth interview with MANSW Executive Officer, Dariusz Samojlowicz, Dr Way offered rich insights into how young children learn mathematics—and what this means for teachers in today’s classrooms.

Dr Way’s journey into mathematics education began not with a single moment, but with a mentor who saw her potential. Encouraged to pursue postgraduate study, she discovered new confidence and a growing fascination with how children think mathematically long before they enter school. This curiosity laid the foundation for her research into representations and embodied learning, two themes central to her keynote address.

One of Dr Way’s most striking messages is the critical role of representations in students’ mathematical development. While concrete materials remain important, she emphasises that learning extends far beyond blocks and counters. Children learn through drawing, gesture, movement, and visualisation—forms of representation that help bridge the gap between hands-on experiences and abstract thinking. Sequencing these representations thoughtfully, can determine whether students progress smoothly or become stuck in their understanding.

Her discussion of embodied learning is equally compelling. Teachers naturally use gestures, physical cues, and spatial demonstrations every day, often without realising the powerful cognitive role these actions play. By becoming more intentional—pausing to choose gestures that clearly highlight mathematical features—teachers can significantly enhance student comprehension with no additional workload. Small changes, she stresses, can have profound effects.

Dr Way also urges teachers not to rush complex ideas such as fractions. Instead, she encourages providing time for exploration and allowing students to generate their own representations. This, she argues, is essential for genuine conceptual understanding. Perhaps the most affirming message from Dr Way is her belief in teachers’ professional judgement. There is no single “best practice,” she reminds us—only the best approach for this class, this moment, and this learning goal. Building a diverse pedagogical toolbox and knowing when to use each tool is at the heart of effective mathematics teaching.

Dr Way’s keynote will bring these ideas to life through visual examples, practical demonstrations, and opportunities for rich discussion.

Don’t miss the chance to learn directly from her at the [K–8 Conference](#). [Register now](#) and be part of this professional learning experience.

## MANSW's Strategic Focus for the Year Ahead: Strengthening Our Community, Our Authority, and Our Impact

Late last year, the MANSW Board gathered for a two-day planning workshop. This annual workshop is a crucial point in our governance cycle—a time for reflection, forward planning, and ensuring our work remains grounded in the needs of mathematics educators across NSW. Over the two days, Board members worked through a structured agenda that included a review of the year, exploration of emerging risks and opportunities, a reassessment of the Strategic Directions Plan 2022–2025, and discussions on policies, membership, professional learning, and the future direction of the association.

A significant part of the workshop focused on reaffirming who we are as an association and what our members value most. Board members participated in an activity exploring both the tangible and intangible benefits of MANSW membership. They then selected their top three priorities—areas they believe will deliver the most value to members over the next 12 months. These collective insights now shape our strategic focus for the coming year.

### 1. Strengthening Our Role as a Trusted Mathematics Authority

One of the strongest themes to emerge from the prioritisation exercise was the desire to deepen MANSW's standing as a trusted, credible voice in mathematics education.

### 2. Building Networks and Strengthening Community

Another key priority identified was supporting stronger networks across the state. The Board recognised the growing importance of both face-to-face and digital connection points for educators.

### 3. Inspiring Your Practice Through Resources, Professional Learning, and Access

The third major priority focuses squarely on supporting your day-to-day teaching practice.



Have you been making sure to prepare your Year 12 Mathematics Standard students to be familiar with the reference sheet?

What about making sure your Mathematics Extension 2 students are including all vital lines of working in a structured proof?

Are you certain of the best advice to give to students to ensure they avoid common mistakes and pitfalls in their final examinations?

On Saturday 21<sup>st</sup> February MANSW held its annual HSC Feedback Day at Macquarie University, focussing on the performance of HSC students in the 2025 HSC. This event, which is free for MANSW members, was attended by over 200 teachers from around NSW, with senior markers from all 5 mathematics HSC examinations present to provide detailed feedback.

Presenters focussed on trends observed and potential takeaways for teachers. For each course, some of the highlights are listed below.

### Mathematics Extension 2

- Multiple attempts at questions frequently occurred in particular questions. Students should indicate which attempt is their final attempt at the solution.
- Many large steps were taken in questions asking students to 'show'. Care should be taken to identify what is given and what is required to be shown.
- Proofs should not begin with the result and work towards a true statement
- Students should choose notation to aid their solution, for example using  $\vec{v}_x$  and  $\vec{v}_y$  rather than  $v_x$  and  $v_y$  for both horizontal and vertical velocity.
- Common simple mistakes included algebraic errors, rotating complex numbers in the wrong direction when multiplying by  $i$  and leaving answers in the wrong form (e.g. Cartesian form of a complex number).
- Students need to have mastered Mathematics Advanced concepts. The example of arithmetic and geometric progressions was raised multiple times.

### Mathematics Extension 1

- Students need to be expertly familiar with the reference sheet. The example of many students using the incorrect formula for the area of a sector was raised.
- Students need to set up their mathematical induction proofs with good structure. This includes care with what is written (factorials were appearing in many unexpected places). Steps were also commonly skipped, making the proof unclear or incomplete.
- The integral of  $\frac{1}{x^2}$  posed more problems to students than it should. Students should be given lots of exposure to these things that we may take for granted.
- Students are advised to draw the vectors in any given scenario.

### Mathematics Advanced

- Students should 'play' with a situation to investigate and help them understand what has been proposed, for example writing out a geometric sequence to establish the common ratio.
- Similar to Ext 1, it was common for students to approach 'show' questions by starting with the statement to be proven, which is an incorrect strategy.
- Those students who drew the diagram for a normal distribution (think of sheep!) were those who had the most success.

### Mathematics Standard 1 & 2

- Being able to question how realistic their answer is in context of the question, particularly in financial mathematics.
- Many skills that would be considered more fundamental for the Standard courses were highlighted as needing attention, such as dividing into a ratio, converting from dollars to cents and distinguishing area from perimeter.
- Long passages justifying or explaining solutions tend to have students contradicting themselves and talking themselves in circles. Particularly for less marks, encourage short, to the point explanations.
- Mixing up common terms such as tax payable and taxable income, as evidenced by many students calculating a person's medicare levy from their tax payable, not their taxable income.

Teachers were as always taking thorough notes, looking for tips and tricks to give their students the best chance of success in their HSC year.

Recordings of the HSC Feedback Day for each year are posted on the [MANSW website](#), freely accessible to members. At the time of this publication, the website shows recordings of sessions relating to the [2024 HSC examinations](#), with the 2025 examination recordings to be posted soon.

These recordings should be accessible to any teacher who is logged into the MANSW website and holds a current personal membership, or is associated with a school holding a current institutional membership. Reach out via email at [admin@mansw.nsw.edu.au](mailto:admin@mansw.nsw.edu.au) if you have difficulty accessing the recordings.

The book cover features a large red '11' at the top. Below it, the text 'MASTERING HSC MATHEMATICS' is written in white, followed by 'YEAR 11 MATHEMATICS ADVANCED' in red. At the bottom, it says 'NEW STAGE 6 HSC SYLLABUS FOR STUDENTS AND TEACHERS' in white. The background is a dark, stylized image of a modern building with a staircase.

MASTERING  
HSC MATHEMATICS

YEAR 11 MATHEMATICS ADVANCED

NEW STAGE 6 HSC SYLLABUS  
FOR STUDENTS AND TEACHERS

The book cover features a large green '11' at the top. Below it, the text 'MASTERING HSC MATHEMATICS' is written in white, followed by 'YEAR 11 EXTENSION 1 MATHEMATICS' in green. At the bottom, it says 'NEW STAGE 6 HSC SYLLABUS FOR STUDENTS AND TEACHERS' in white. The background is a dark, stylized image of a modern building with a staircase.

MASTERING  
HSC MATHEMATICS

YEAR 11 EXTENSION 1 MATHEMATICS

NEW STAGE 6 HSC SYLLABUS  
FOR STUDENTS AND TEACHERS

Revised Editions for the new syllabus

# OUR COMMITMENT TO ABORIGINAL AND TORRES STRAIT ISLANDER LEARNERS OF MATHEMATICS

At the Mathematical Association of New South Wales (MANSW), we believe that mathematics education must honour and reflect the rich cultural heritage, languages, and stories of Aboriginal and Torres Strait Islander peoples. We are committed to creating learning environments where every student feels valued, respected, and empowered to succeed. Our approach is guided by four pillars:

## 1. Culture

We recognise culture as a foundation of identity and learning. We commit to embedding Aboriginal and Torres Strait Islander perspectives authentically in mathematics education, ensuring that cultural knowledge is celebrated and integrated into teaching practices, resources, and professional learning.

## 2. Wellbeing

We believe that student wellbeing is inseparable from academic success. By fostering safe, inclusive, and relational learning spaces, we support the holistic development of learners. We prioritise practices that strengthen connections between students, teachers, families, and communities.

## 3. Language

Language is a powerful vessel of knowledge. We advocate for the inclusion of Aboriginal and Torres Strait Islander languages and dialects in mathematics learning, recognising their role in shaping understanding and identity. We encourage educators to value linguistic diversity as a strength in the classroom.

## 4. Storytelling

Stories connect people, places, and ideas. We commit to using storytelling as a pedagogical tool to make mathematics meaningful and relevant. By sharing narratives that reflect Country, culture, and community, we aim to deepen engagement and promote a sense of belonging for all learners.



MANSW consultancies have already begun in 2026, with Murray Farm Public School starting the year fast by engaging with challenging mathematical tasks on Tuesday January 27.

The entire staff kicked off their first day of the new year by joining MANSW consultants David Watson and Miriam Lees in exploring how challenging tasks can be harnessed to get students thinking deeply about mathematics. We engaged with enabling prompts and extending prompts for a range of activities to ensure access and challenge for all students. We then finished with a range of mathematics games that have students arguing about a winning strategy.

Feedback from the day included that participants found it “engaging and interactive” and leaders from Murray Farm found that the presenters kept a staff of over 50 actively engaged in thinking about mathematics and about their teaching.

MANSW consultants are available in 2026 to support NSW primary and secondary schools with a range of needs, including building mathematical thinking with challenging tasks, non-routine problems, differentiation, assessment, programming, syllabus content and more. Reach out via [admin@mansw.nsw.edu.au](mailto:admin@mansw.nsw.edu.au) if you’re looking to strengthen mathematics education in your school.

Mathematics is the study of **PATTERNS**.

**mathematicians** **NOTICE** patterns  
**describe** patterns  
**GENERALIZE** patterns

# Faculty Review



Mathematical Association of NSW



## Strong mathematics faculties don't happen by accident. They are built deliberately.

Built by leaders who value mathematics.

Built by faculties who use data to inform teaching.

Built by teachers who focus on developing conceptual understanding, not just procedures.

Built by schools that invest in discipline-specific professional learning and collaboration.

MANSW's Mathematics Faculty Reviews are designed to help schools see clearly how these design choices are playing out in their own context.

**These are not quick fixes. They are design choices.**

Our consultants work with leadership teams and mathematics faculties to examine:

- How mathematics is experienced in classrooms
- How well programs support conceptual understanding and mastery
- How data is used to inform direction
- How professional learning and collaboration support teacher growth
- How mathematics leadership is positioned within the school

A MANSW review is not an audit.

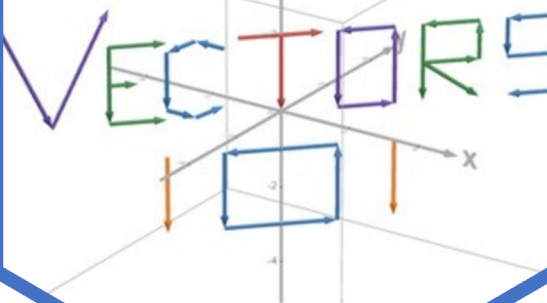
It is an expert, mathematics-specific lens that helps faculties recognise strengths and identify practical next steps for improvement.

If your school is looking to strengthen mathematics teaching and learning in a deliberate, evidence-informed way, we would love to work with you.

[Enquire about a MANSW Mathematics Faculty Review.](#)

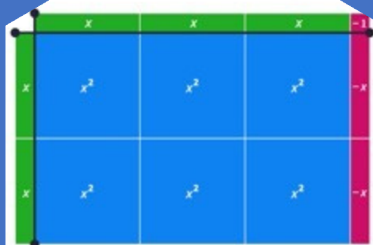
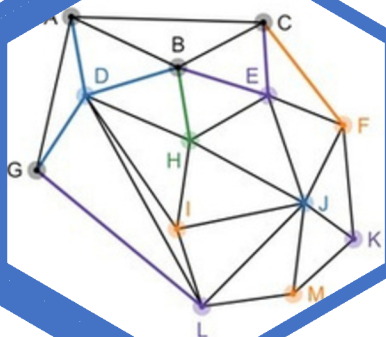
# ONLINE COURSES

NEW!!



Wages

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
10:00 am - 10:00 am					10:00 am - 10:00 am	10:00 am - 10:00 am
5:00 pm - 2:00 pm					5:00 pm - 5:00 pm	5:00 pm - 5:00 pm
	7.00	4.00	0.00	0.00	7.00	7.00
total pay rate	16.00					
mid-shift rate	7.00					
overtime rate	7.00					



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