



# Pearson Baccalaureate for the IB DIPLOMA

## TIM GARRY

I have been teaching mathematics as a fulltime occupation since 1984 – and probably one of the more interesting aspects of my career is the variety of schools in which I have taught. Originally from the USA and having earned a mathematics degree there, I initially taught at a large private Catholic school near Chicago and then moved overseas teaching in small to medium sized international schools in Scotland, Switzerland and Norway. During this time I earned a master's degree in mathematics education and also the teaching of mathematics was increasingly being influenced by exciting technological developments – including graphic display calculators (GDCs), dynamic geometry software and computer algebra systems (CAS). I became very involved – in my own classroom, delivering workshops to teachers, and writing professional articles – trying to find how these new technologies could contribute to improved teaching and learning of mathematics. It was also around this time- in the early 90s – that I started teaching IB mathematics. It was quite an introduction to the IB – teaching Math Studies, Math SL (Math Methods, as it was known then) and Math HL all at the same time. Soon afterwards I became an IB examiner in Math HL – and have marked exams, been on paper editing committees, contributed to curriculum reviews and worked as a moderator and senior examiner for internal assessment.

My family and I lived in the USA (Oregon) briefly during the late 90s where I experienced working in an American public school for the first time. I continued my involvement in delivering teacher workshops and presenting at conferences (I had presented at four consecutive ECIS conferences earlier in the decade being a member of the ECIS mathematics committee) and a highlight was delivering a presentation on teaching activities with the TI-89 calculator at the National Council of Mathematics Teachers (NCTM) annual conference in San Francisco in 1999. The next year found my family and I (my wife is also a teacher) back overseas (having expanded to 3 children) at Copenhagen International School where I resumed my teaching of IB mathematics and became very involved in internal assessment moderation and the launch of a Math HL pilot course that utilized CAS (maybe some day ...). Then in 2002, my family and I moved to Scotland where my wife and I teach at the International School of Aberdeen – and where I am Head of Mathematics and Theory of Knowledge – and where I also teach with the Open University.

I continue to be passionately involved in delivering professional development opportunities to teachers – mainly through the brilliant *InThinking* organization and with the International Schools Mathematics Teachers Foundation – and having fun devising ways to use the fantastic array of technological tools available to teachers today. But these technological tools are just that – tools; and in some situations it is more effective to teach a mathematical concept with a 'low-tech' tool. I could not have had a more powerful reminder of this than my experience of delivering a 3-day workshop for a group of 30 secondary math teachers in the east African country of Malawi two years ago. I have been taking groups of students on CAS trips (Creativity, Action, Service – rather than Computer Algebra Systems – ah, the world of acronyms) to Malawi for several years and I jumped at the opportunity to work with teachers in Malawi for a few days. I have visited at least a dozen schools in and around the capitol city of Lilongwe and none of them have electricity. I fondly remember how we used rope, rulers, paper, protractors, string, etc and made simple tools such as clinometers and distance measuring wheels. As I observed some teachers in the Malawi workshop measuring the height of a tree with a clinometer, some rope and knowledge of trigonometry, I was reminded of discussions that I have with my TOK students about whether mathematics is more of a 'pure' subject than other subjects. I try to get them to see that mathematics is much more a way of thinking rather than just a collection of topics. I believe this is why I enjoy teaching mathematics, and sharing with other teachers of mathematics – that mathematics is about how to think clearly, critically and imaginatively.