



© 1997–2009, Millennium Mathematics Project, University of Cambridge.

Permission is granted to print and copy this page on paper for non-commercial use. For other uses, including electronic redistribution, please contact us.

January 2000

Regulars

Editorial

by Robert Hunt



New Millennium, New Name and New Look

Regular readers of PASS Maths will notice that our site has undergone a complete relaunch with this issue, complete with a new name in time for the new Millennium. (We could at this point get sidetracked into a discussion of exactly when the third Millennium *really* starts, but we won't be pedantic. It's interesting to ask which decade we're in at the moment!)

While the name PASS Maths served us well for 9 issues, it had all the wrong connotations for some readers. After all, it might have sounded as if it was supposed to help you get through A levels, though nothing could be further from the truth: PASS Maths was and is about explaining how maths is useful *beyond* the curriculum. So the magazine is now called *Plus*, a name which encapsulates both the fact that it's about mathematics and also that it's about something more than just maths – it's about the applications of mathematics to life and the real world. We realise that there are other mathematics publications with "plus" in the title, so we're not being original; but then there were plenty of mathematics publications with "pass maths" in the title!

We hope that you like the new streamlined look. The content may *look* different but the substance is the same: we haven't changed our philosophy or our aim to explain why mathematics is exciting and how useful it is in all aspects of life and all branches of science. We want as many people as possible to get involved with *Plus*, and we positively encourage letters and contributions. We'd particularly like to hear from schoolteachers who'd like to contribute to our "Staffroom", whether they want to share a teaching idea or simply to sound off about something!

How to Lie with Statistics

Some readers may have heard of *How To Lie With Statistics* by Darrell Huff. The book was written in 1954 but everything it says still holds just as true as it did then, which explains why the book is still available in all good bookshops. Darrell Huff explains many ways in which newspapers and politicians mislead the public by presenting data in carefully chosen ways and by drawing scientifically invalid conclusions, or leading the

reader into drawing invalid conclusions of his or her own. He ends up asking, is lying with statistics simple incompetence or is it dishonesty? His conclusion is that it is mostly dishonesty.

Some good examples of misleading use of statistics have come up recently. The Government says that, over the last few years while they have been in office, taxes have fallen. The Opposition claims the opposite, that the tax burden has increased. Both sides are using the same data, yet they reach different conclusions: each side is simply presenting the data in its own confusing way, designed to make its arguments more convincing. It takes somebody who understands statistics (and economics to some extent) to work out who is right and who is wrong. Another example arose with the recent 'flu outbreak: medical experts said that it was not an epidemic, because the number of cases reported to GPs had not reached 400 per 10,000 people, which is the accepted definition of an epidemic. The Government stated publically, however, that this *was* an epidemic, simply because (to paraphrase) lots of people had it and many of them probably weren't telling their GPs. We wonder what the point of having a *definition* of an epidemic is if we can just ignore the definition if we feel like it?

Should schoolchildren be taught how to interpret statistics? There are many aspects to teach about, such as graphs with misleading scales or axes, and opinion polls reported without the all-important sampling errors. To be able to grasp all the data which the media flings at the public and interpret it correctly: there seems no doubt that this is an important skill.

World Maths Year 2000

World Maths Year 2000 has started, and with it there are public education initiatives taking place around the world. One example that we like here at *Plus* is the Posters in the London Underground project organized by the Isaac Newton Institute for Mathematical Sciences. Every month this year a new poster on some mathematical theme appears on Underground trains: 12 posters in all. Each poster tries to explain how mathematics underlies some aspect of nature or science and why a subject which many people regard as obscure and difficult – or even boring! – is really vital to our understanding of the world. The posters will be reproduced on the web with a fuller explanation and discussion, each one as it goes onto the trains. The first one (on Fibonacci numbers) is already there.

The Government has also set up its own initiative for World Maths Year, called simply Maths Year 2000. The web site is lively and colourful, with games and a puzzle of the day, and activities are planned in various locations round England. It will certainly generate enthusiasm for maths, and the web site is fun to use. The only complaint is that it's almost all aimed at primary school children; some of the games will interest a young teenager, but there's certainly nothing for sixth formers!

Network capacity problem – Issue 3 revisited

In Issue 3 of PASS Maths we reported that some schools had had difficulty with the speed of access to web sites which were based in universities, and in particular with accessing PASS Maths (compared with accessing their ISP's web sites or other schools). We would be very interested in hearing from anybody who still has difficulty with this problem: it is an issue we would much like to do something about, but to do so we need evidence that there really is a problem!

About the author

Dr. Robert Hunt is the Editor of *Plus* Magazine.



Plus is part of the family of activities in the Millennium Mathematics Project, which also includes the NRICH and MOTIVATE sites.