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Actuarial science began as the place where two branches of mathematics meet: compound interest and observed mortality statistics. Financial planning for the future is therefore rooted firmly in the past. **John Webb** takes us through some of the mathematics involved, introducing us to some of the colourful characters who led the way.



Fishy business

'Of the myriad stratagems I employ to avoid useful work, the one I most enjoy is to envision how scientists of earlier eras would have made use of modern computers.' **John L. Casti** tells us how today's mathematicians are using computers to carry on the work of turn–of–the–century polymath d'Arcy Wentworth Thompson, who showed how mathematical functions could be applied to the shape of one organism to continuously transform it into other, physically similar organisms.



In perfect harmony

The harmonic series is far less widely known than the arithmetic and geometric series. However, it is linked to a good deal of fascinating mathematics, some challenging Olympiad problems, several surprising applications, and even a famous unsolved problem. **John Webb** applies some divergent thinking, taking in the weather, traffic flow and card shuffling along the way.



Take a break

There are many errors that can occur when numbers are written, printed or transferred in any manner. Luckily, there are schemes in place to detect, and in some cases even correct, such errors almost immediately. **Emily Dixon** takes a break and discovers that codes are not just for sleuths.



Against the odds

Danielle Stretch looks back at the remarkable life of pioneering mathematician Emmy Amalie Noether (1882–1935). Despite her constant struggles to make her way in a man's world, she made significant contributions to the development of modern algebra.



Career interview: Avalanche researcher

Jim McElwaine tells Plus how he combines his two loves – mathematics and mountaineering – in avalanche research.



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