

**ZMATH 2004e.04270**

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**Making sense of statistics. A non-mathematical approach.**

Palgrave, Basingstoke (ISBN 1-4039-0107-4). 208 p. (2004).

The book provides a short introduction to statistics and probability, without the distractions of mathematics. The book does not require the reader to use any algebraic formulae or equations, but explains how and why methods work, and what answers mean. It provides guidance on how to design investigations, analyse data and interpret results, it has self-contained chapters, and includes exercises, case studies and has an accompanying website from which readers can download interactive spreadsheet models and data files. The author's approach simplifies the conceptual basis of statistics by focusing on ideas that don't depend on elaborate mathematics, such as simulation and 'bootstrapping'. These are linked to the conventional techniques of mathematical statistics, and the output of the spreadsheet, Excel, and the statistics package, SPSS. Contents: Introduction - Statistics, non-mathematical methods and how to use the book; Probability, samples, buckets and balls; Summing things up - Graphs, averages, standard deviations, correlations and so on; Why use statistics? - Pros, cons and alternatives; Calculating probabilities - Mental ball crunching and computer games; Possible worlds and actual worlds - How can we decide what's true? How big is the error? - Confidence intervals; Checking if anything is going on - Tests of null hypotheses; Predicting the unpredictable or explaining the inexplicable - Regression models; How to do it and what does it mean? - The design and interpretation of investigations; Appendices.

*Classification:* K90 U95