

Count like an Egyptian: A Hands-on Introduction to Ancient Mathematics

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The preface explains how working through the material on the Rhind Mathematical Papyrus, and studying the wider historical context of ancient Egypt, the author was able to gain an understanding of mathematics in ancient Egypt in a practical rather than an abstract way. This is how he wanted to present the material in the book, as something beautiful and fun for both puzzle lovers and creative individuals. In many respects he has achieved, as the methodological way in which the book is presented creates an atmosphere of discovery as the answers become clear.

I will be honest, however, when I first received this book, I was scared. I was never much good at maths at school and just flicking through the book and seeing all the equations and tables left me in a cold sweat, even though they were printed in an attractive and colourful way.

However, once I started reading, it all seemed to slot into place and was a little less daunting than it first appeared. Each chapter (or section within the chapters) starts with some background history. For example the first chapter starts with a discussion on Ptah, one of the creator gods and the importance and power of Egyptian hieroglyphs, the next on the political divisions of Egypt and their contact with the outside world. However, not all of the information is correct in these 'history sections'. I won't list all of the mistakes although some were major errors, such as naming the earth god Seb when it is well-known to be Geb, or claiming "Egypt had little contact with the outside world," which is negated by much archaeological and written evidence.

However the author never claims to be an Egyptologist and this is where the mistakes originate. He is clearly a mathematician and his strengths lie in the mathematical explanations. And, it has to be said the mathematical explanations are excellent. Each problem is explained with a simple narrative, a table, an illustration (of a loaf of bread or a pyramid for example) and a modern comparison (money or pizza). This therefore appeals to different learning styles meaning the calculations are accessible to all.

The only difficulty I had with some examples was the American colloquial terms for money (nickels and dimes) which as a British reader over-complicated the sums. I had to keep reminding myself how much a dime/nickel/quarter was before applying it to the ancient methods. However each explanation was followed by different methods of explanation and a number of examples to practice (and the solutions).

The book is systematic, meaning it is not a 'dip in' volume, as each chapter builds on the explanations of the previous chapters. It starts with the numeric system and how this is rendered in hieroglyphics although the hieroglyphic numbers are not used throughout the text.

Reimer speculates how the Egyptians calculated simple addition which they did not record in the papyri, as well as demonstrating the process of multiplication and long division. Then there is an

entire chapter on fractions which the author explains are closer to modern decimal places than fractions.

Once the reader has grasped the concept of adding, dividing and multiplying fractions they can then move on to more complicated forms of calculations using these basic skills. The author, even when explaining complicated things reminds the reader of previous calculations discussed. Every chapter therefore builds on the skills learned in the previous chapter.

A particularly charming aspect of the book is how Reimer uses, wherever appropriate, practical 'ancient Egyptian' examples to demonstrate the techniques, looking at such things like calculations of 'slope' when building a pyramid, division of bread and beer for rations, calculating labour needed to complete a job and how to calculate proportions for drawing using an ancient Egyptian grid system.

In chapter 7 Reimer adds another dimension to ancient mathematics by giving an introduction to Roman, Sumerian and Babylonian mathematics as a means of introducing the base system of calculation. Whereas in the previous chapters the author chose not to use Egyptian hieroglyphs for the examples in this chapter he favours the cuneiform script over the numerical system we are more familiar with. This chapter however is posed as a comparison between the Babylonian and the Egyptian system to show the Egyptian is in fact more straightforward. Reimer proves this point well.

Throughout the book the author refers to calculation tables and an Egyptian ruler which were provided at the front of the book but which can also be accessed on the Princeton webpage to download so the reader has them to hand when working through the examples.

In general I really like this book and believe it is, if not necessarily a must for all Egyptophiles, then definitely one to put on the wish list as an interesting addition to your bookshelf. It is reasonably priced and is also available on kindle although as it is a "flick back and check" type of book I think the hardback is a better option. It is fun way of working through complicated and yet practical mathematics which makes the Rhind Papyrus come alive and gives an insight into the logical brain of ancient Egyptian scribes.