

Earliest Mathematics

Welcome to Math 4504! Before we get started, here are a few notes.

- The readings we will have generally come from two places: the book “Journey Through Genius” by William Dunham, and online.
- The online readings should all be free. For many of them, hosted through the library, you will need to use your OSU login to access the resource. (If you are already logged in to another resource like Carmen, you may automatically bypass the login step!) If you run into trouble with any of the resources, please check Carmen or contact me.
- Remember to access this site through Carmen so that your score translates back to the grade book appropriately.

Now, on to the good stuff!

We begin our study of the history of mathematics as far back in history as we can. The earliest form of mathematics that we know is counting, as our ancestors worked to keep track of how many of various things they had. The earliest evidence of counting we have is a prehistoric bone on which have been marked some tallies, which sometimes appear to be in groups of five. You can see a picture of these marks on what is now called the “Ishango bone” at Prehistoric Mathematics . The earliest civilization we know to then develop methods of adding, subtracting, multiplying, and dividing are the ancient Egyptians. In the readings below, we will see some history of the time period, as well as the methods the Egyptians used for counting and basic mathematical operations. The third reading is a timeline, which you might find helpful during this first part of our course.

Readings

First Reading: (Video) The Language of the Universe: Mathematics in Ancient Times

- Watch at least Section 1: Emergence of a New Universe

Second Reading: Egyptian Mathematics

- Section 1: Basic Facts About Ancient Egypt
- Section 2: Counting and Arithmetic: Basics

Third Reading: Egyptian Fractions: Ahmes to Fibonacci to Today

Fourth Reading: Chronology for 30000BC to 500BC

Learning outcomes:

Author(s):

See Prehistoric Mathematics at <http://www.storyofmathematics.com/prehistoric.html>

See The Language of the Universe: Mathematics in Ancient Times at <http://library.ohio-state.edu/record=b7179127-S7>

See Egyptian Mathematics at <http://www.math.tamu.edu/~don.allen/history/egypt/egypt.html>

See Egyptian Fractions: Ahmes to Fibonacci to Today at <http://www.jstor.org.proxy.lib.ohio-state.edu/stable/27967280>

See Chronology for 30000BC to 500BC at http://www-history.mcs.st-and.ac.uk/Chronology/30000BC_500BC.html

Questions

Question 1 When are the first symbols for numbers used? 3400 given BC

Question 2 What kind of fractions did the Ancient Egyptians use?

Multiple Choice:

- (a) They did not use fractions.
- (b) Unit fractions $\frac{1}{n}$ ✓
- (c) Only the fractions $\frac{1}{2}$, $\frac{2}{3}$, and $\frac{3}{4}$
- (d) All fractions that we use today.