Exercise 5: A Rhind Is a Terrible Thing to Waste

By Eric Peterson (ePeterso2)

The solution to this puzzle is a set of geospatial coordinates (longitude and latitude) in the form:

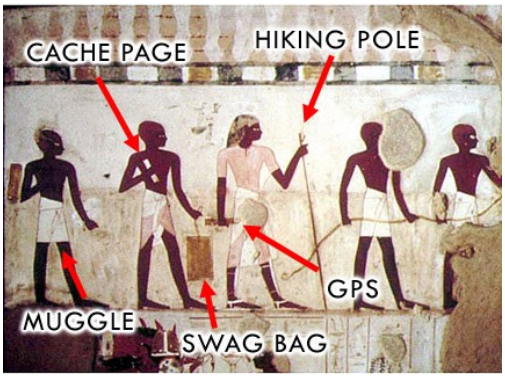
N DDº MM.mmm' W DDº MM.mmm'

Where "DD" is degrees and "MM.mmm" is minutes (in thousandths). These coordinates are the solution to the mystery cache Puzzle Solving 101 - Lesson 5: Mathematics (GCYXZ5). (This cache has been archived—the puzzle-solving lesson on the cache page is still visible, but the cache can no longer be found and logged.)

This solution can still be used to complete, discover, and log the cache Puzzle Solving 101 (GCYXN0). Concatenate the five digits in the north minutes followed by the five digits of the west minutes (ignoring spaces and decimal points). Use that ten-digit sequence as the password for the web page ps101.puzzlehead.org/gcyxz5/clue, which will give you one of the nine clues you will need to complete The Final Exam.

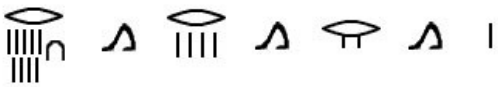
The ancient Egyptians were highly skilled mathematicians. By 2700 BC, they had the earliest-known fully-developed base 10 numbering system. Using this system, they were able to study arithmetic, alegbra, number theory, linear equations, and the beginnings of integral calculus. They used this knowledge in a variety of government, business, scientific, and engineering applications ... including the construction of the Great Pyramids.

It is a little-known fact that the ancient Egyptians also were avid geocachers. Below is an annotated photo of one of the Tombs of the Scribe Surveyors at Thebes in southern Egypt on the western side of the River Nile, almost adjacent to the famed Ramesseum, a grand temple built in honour of Ramesses the Great.



Unfortunately, Egyptian numerals were considerably unwieldy and cumbersome to use by today's standards.

For instance, the ancient Egyptian version of this cache description page might show the north minutes like this:



And the west minutes like this:

Hmmm ... I guess it's not much of a puzzle if I just go ahead and put the coordinates of the final location in the cache description. Oh well ... maybe the next cache will be tougher.

(IMPORTANT: Compute each minutes value using only fractions, convert to decimal at the end, then round off. Otherwise, your solution may be incorrect.)

HINT (in ROT13): Gur jevgvat vf uvrengvp, fb jngpu lbhe srrg