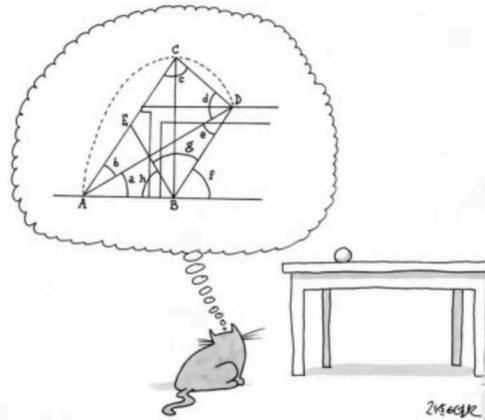


Readers of our **Around the World** blog will know that people and events are often placed in historical context to provide readers a more complete understanding of the topic at hand. So it is with the discovery of a clay tablet from Old Babylonia that may yet turn the history of mathematics on its head.

First unearthed in 1894 near where the Iraqi capital Baghdad is located today, the tablet was left to rest, forgotten in some corner of Istanbul's Archaeological Museum. That was until Australian mathematician Daniel Mansfield spotted it in a photo in 2018, and excited about the perfect angles he could see on it, went to Turkey to investigate.



Three years later, Mansfield says he's solved the riddle of this ancient tablet. Dating back to the Old Babylonian period about 3700 years ago, it is the oldest known example of applied geometry. It also holds the secrets of an ancient understanding of triangles. Until now, we've gone with the story that trigonometry was invented by the ancient Greeks and more specifically by the philosopher and mathematician Pythagoras. But Mansfield's study suggest that trigonometry was in use a thousand years before Pythagoras was even born.



The Babylonians seemingly had ways to make their calculation more precise than those done by the Ancient Greek. Instead of using angles and circular or trigonometric functions such as the Greeks did, the Babylonians based their calculation on numerical relationships. Their calculations were based on a count of 60 -much like our units of time. A base count of 60 meant that when they divided things, the results produced whole numbers (integers) more often than not, and that reduced the risk of them making mistakes or inaccuracies when they rounded results up or down.

Interestingly, these calculations were used to plan builds, and to measure the sizes of fields in land surveying or defining boundaries. The tablet -known as Si.427 holds legal and geometric details about a piece of land that was subdivided after part of it was sold. This makes it basically a land registry document, detailing the exact boundaries and ownership of a plot of land. Arguably this makes the tablet the first known example of the commercial application of mathematics.

Incredibly, this means that as far back as 37 centuries, humans started thinking about land in terms of mine-and-yours, or private land ownership. There are more of these tablets known to exist, each showing similar details about land surveying and ownership issues. One of them involves a dispute over valuable date palms between two wealthy landowners and their properties. According to the writings on the tablet, a local administrator agreed to send out a surveyor. From this it is easy to concluded how accuracy was important to resolving such matters -something that holds true today.

Most kids learn in school that $a^2 + b^2 = c^2$. Pythagoras, right? Wrong. Time to re-write history. For more on the application of this famous theorem, click <[here](#)>.

Be safe, be well!

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