

Trigonometric REVIEW

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THE ORIGIN OF "SOH CAH TOA" IDENTIFIED!

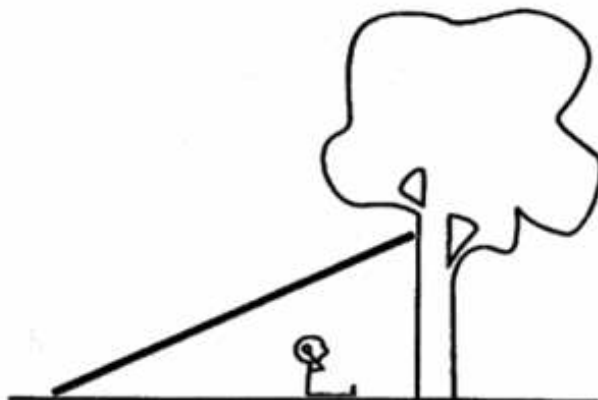
The mystery of the derivation of SOH CAH TOA, the acronym for trigonometric ratios, has finally been solved. Recently, investigators traced its true roots to a tribe called the Hypotens. This ancient clan had an amplitude of customs that modern civilization would consider odd. Only lately has it been discovered how these practices gave birth to SOH CAH TOA.

The Hypotens lived in dwellings that looked like lean-tos and that rested against trees, as illustrated. These homes were not shaped like hexagons or pentagons but simple three-sided polygons called "trigons." Often Hypotens would describe one of these homes as "trigon on my tree!" Hence the land of the Hypotens became known as *Trigonometry*.

Another curious fact about the Hypotens was that they did not speak but instead used only "sine" language. They had very sensitive ears, and even the most subtle noise would cause them excruciating pain. Not only did they avoid making a sound, but they kept their hands over their ears. Since their hands were always occupied in this way, they had to sit and gesture with their feet when they wanted to talk. Naturally, communication was a difficult process.

Because talking was so arduous, the Hypotens published a daily periodical of events, which became known as the *Hypoten News*. The *Hypoten News* was not a very reliable journal because the Hypotens could not always agree on what was to be printed. The leaders of the two

major political parties would meet daily to discuss the editorials and interpolations of the day's events.



An Hypoten's home

The conservatives, called "Degrees" because most of them had Ph.D.s, and the radicals, known as "Radians" (short for "Radical Hypotens"), would sit in a big circle so that all could see the conversation. Invariably, at this so-called "circular function," one of two things would happen.

If the factions could not agree on how to present an article, they would get very angry and separate to sit at opposite sides of the room. If this situation persisted a sine was given that there was an "opposite sit" over the *Hypoten News*:

$$\text{Sine} = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

Sometimes everyone would agree on the news. If the Degrees could be converted to the Radians' angle on a story or vice versa, they

would remain seated next to each other in adjacent seats. When this occurred the cooperation signal was given, the "cosine," so named because the leaders were sitting "adjacent over the *Hypoten News*:"

$$\text{Cosine} = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

Now, this sequence continued for many years until a visitor from Argentina observed such a meeting and offered a suggestion. He pointed out that if they could not agree, the rational thing to do was simply to publish two bulletins, one for each of the divergent views. In other words, the "tangent" said that they could remain "opposite over adjacent" and still publish the *Hypoten News*:

$$\text{Tangent} = \frac{\text{Opposite}}{\text{Adjacent}}$$

Upon hearing this radical suggestion, the Hypotens fell into a violent argument. A change of such a hollowed tradition was bound to waggle a few toes! The Hypotens argued long into the night until their feet were exhausted. Not only did they never agree on the "tangent's" suggestion, but days of soaking their toes in the tub were required before the acute pain subsided and many of them could converse again.

From that day forward the famous argument has become known as the great "SOH CAH TOA."