

AHMES' METHOD TO SQUARING THE CIRCLE

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ABSTRACT

Squaring the circle is the problem which accompanies human civilization from its beginning. Two co-existed cultures Babylonian (Sumerian) and Egyptian developed radically different approaches to calculate the area of the circle. Sumerians used length of the circumference to determine the area of the circle. Ancient Egyptians used the diameter of the circle to find its area. In ancient Egypt, in 1650 B.C., scribe Ahmes wrote on papyrus: "Cut off $1/9$ of a diameter and construct a square upon the remainder; this has the same area as the circle." The geometrical realization of this recipe needs an additional mathematical knowledge: How to divide a given segment into 9 equal pieces. Is it possible that other divisions of a diameter than $8/9$ are much better? Ahmes' method to calculate the area of the circle is a powerful pedagogical tool connecting mathematics with historical contexts.

Keywords: Ahmes, civilization, Egypt, number pi, squaring the circle.