

البحث رقم (٥) في القائمة

The So-called <i>Seqed</i> and Scientific cradle of the angle θ in ancient Egypt	عنوان البحث باللغة الإنجليزية
المزعومة سيكيد والمهد العلمي للزاوية ثيتا في مصر القديمة	عنوان البحث باللغة العربية
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ancient Egypt was based on the calculation of mathematics that is mentioned in linguistic sources, scenes of tombs, temples and stelae.

Abstract

Science is a matter of asking for information by specifying the difference between fact and opinion. Fact in a scientific context is a generally accepted reality, but still open to scientific inquiry, as opposed to an absolute truth, which is not a part of science. The hypotheses and theories are generally based on objective inferences, unlike opinions are generally based on subjective influences. Hence we can say ‘the facts versus the opinions’. In determining the factual length of an ancient Egyptian cubit or the true value of a *Seqed*, as discussed in the Rhind and Moscow Mathematical Papyruses, one will notice confusing differences. Varying opinions have been advanced, e.g., by Carter&Gardiner,Iversen,Hayes,Budge,Noblecourt, Lorenzen, Müller, Gardiner, Stricker,Gay,Legon,Gay&Shute,Naguib, Roik, Shaffer, and the Encyclopaedia Britannica. Possibly, though, also ancient Egyptian sources might have offered different values. The question now is how to measure a *Seqed* (sQd) in ancient Egypt accurately? And is the value of the *Seqed* or the angle θ correct applying the rules of modern trigonometry? The question arises as to whether the problems of the *Seqed* are actually mirrored in the ancient Egyptian architecture methods and construction techniques? In ancient Egyptian mathematics there were seven palms in a cubit and the *Seqed* was seven times the cotangent. The Egyptian *Seqed* is the ratio of the run to the rise of a slope of a cotangent.

The Rhind Papyrus mentions the *Seqed* repeatedly (e.g. 56, 57, 58, 59, 59 b and 60) in connection with many problems or issues. The concept and significance of the *Seqed* in architecture becomes apparent when considering the inner slope or inclination of the triangular side of the pyramid. In modern trigonometric terms the *Seqed-to-the-height* ratio (in ancient palms) is the cotangent angle of the triangular surface. The *Seqed* represents the run (or incline) which equals a vertical rise of 1 cubit, a word derived from the Latin 'Cubitum' for elbow (Greek πήχυς [pechys]). Etymologically, the term 'pyk belady/baladi' is related to the Greek 'pekhus and pygon', both also