

More about ancient Egyptian multiplication

Why did the Egyptians multiply this way?

The ancient Egyptian number system is quite different from the one we are used to. Our system is based on place value. The number 432 means: 4 hundreds, 3 tens, and 2 ones. You know that there are three tens because the 3 is in the second place from the right. Our multiplication algorithm is based on this place value system.

The ancient Egyptians used a different symbol instead of a different place to indicate ones, tens, hundreds, etc.

They wrote



which is four of the hundreds symbol, three of the tens symbol, and two of the ones symbol. The algorithm we use depends on place value--the value of a digit depends on its position in the numeral. The ancient Egyptian system was not positional--you can write these digits in any order you like and it still means the same number. They had to find an efficient way to multiply by adding. Their algorithm is closely related to binary numbers.

Egyptian Numerals

| 1 ∩ 10 ∩ 100 ∩ 1,000 ∩ 10,000 ∩ 100,000