AN IMPORTANT FORMULA TO CALCULATE THE NUMBER OF PRIMES LESS THAN X
by L. Seagull, Glendale Community College

If \( x \geq 4 \), then:

\[
\begin{array}{c|c|c|c}
\hline
\text{\( k \)} & \text{\( S(k) \)} & \text{\( \lfloor a \rfloor \)} & \text{\( \lfloor a \rfloor - 1 \)} \\
\hline
2 & \hline
\hline
\end{array}
\]

where \( S(k) \) is the Smarandache Function: the smallest integer such that \( S(k)！ \) is divisible by \( k \), and \( \lfloor a \rfloor \) means the integer part of \( a \).

Proof:
Knowing the Smarandache Function has the property that if \( p > 4 \) then
\( S(p) = p \) if only if \( p \) is prime,
and \( S(k) \leq k \) for any \( k \),
and \( S(4) = 4 \) (the only exception from the first rule),
we easily find an exact formula for the number of primes less or equal than \( x \).