

There Is No Largest Prime Number

With an introduction to a new proof technique

Who? Euklid of Alexandria

From? Department of Mathematics
University of Alexandria

When? 27th International Symposium on Prime Numbers, –280

Results
Proof of the Main Theorem

There Is No Largest Prime Number

The proof uses *reductio ad absurdum*.

Theorem *There is no largest prime number.*

Proof.

- 1 Suppose p were the largest prime number.
- 2 Let q be the product of the first p numbers.
- 3 Then $q + 1$ is not divisible by any of them.
- 4 Thus $q + 1$ is also prime and greater than p . □