# There Is No Largest Prime Number

With an introduction to a new proof technique

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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.

- 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.
- Thus q + 1 is also prime and greater than p.

