# There Is No Largest Prime Number With an introduction to a new proof technique

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• Proof of the Main Theorem

Results

### 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. Let *q* be the product of the first *p* numbers. Then *q* + 1 is not divisible by any of them. Thus *q* + 1 is also prime and greater than *p*.

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