There Is No Largest Prime Number

An Axiomatic Approach

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1 First Section

There Is No Largest Prime Number The proof uses *reductio ad absurdum*.



Theorem

There is no largest prime number.

1 Suppose *p* were the largest prime number.

4 But q+1 is greater than 1, thus divisible by some prime number not in the first p numbers.

There Is No Largest Prime Number The proof uses *reductio ad absurdum*.



Theorem

There is no largest prime number.

- 1 Suppose *p* were the largest prime number.
- 2 Let q be the product of the first p numbers.
- But q+1 is greater than 1, thus divisible by some prime number not in the first p numbers.

There Is No Largest Prime Number The proof uses *reductio ad absurdum*.



Theorem

There is no largest prime number.

- 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.
- But q+1 is greater than 1, thus divisible by some prime number not in the first p numbers.

A longer title



- one
- two

Another Section

A longer title



- one
- two