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# There Is No Largest Prime Number

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# There Is No Largest Prime Number

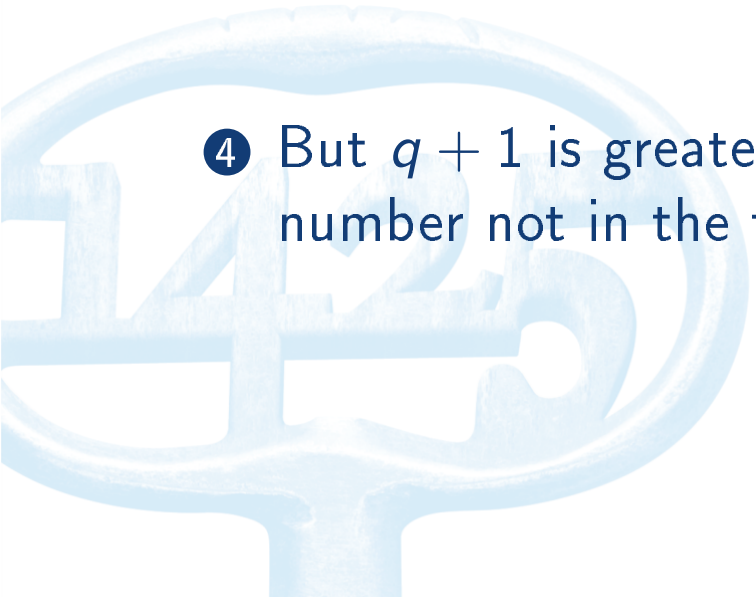
The proof uses *reductio ad absurdum*.

**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.

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.
3. Then $q + 1$ is not divisible by any of them.
4. But $q + 1$ is greater than 1, thus divisible by some prime number not in the first $p$ numbers.

# A longer title

- one
- two

One can prove that

$$1 = 1$$



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# Blocks

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**Example**

For clarity:

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