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.

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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.

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.

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A longer title

- one

- two

One can prove that

$$1 = 1$$

Blocks

Block title

Block body.

Example

For clarity:

$\rightarrow$ first bullet point ...

$\rightarrow$ second bullet point ...

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