Theorem 1. *All numbers are interesting.*

Proof.

1. Suppose not.

2. Then there is at least one boring number, maybe more. Call that group of boring numbers B.

3. There is a smallest number in the boring group B. Call it B_1.

4. Being the smallest of all boring numbers, though, makes B_1 very special—unique, in fact—and thus very interesting.

5. So B_1 is NOT a boring number.

6. But that means no number can be the smallest boring number, so no number can be boring, so all numbers must be interesting.

<div align="right">Quod erat demonstrandum.</div>

Notes

(a) We implicitly assumed that "number" means "positive integers" here— ordinary, everyday, numbers, not fractions or negative numbers or complex numbers or irrational numbers. That matters, because there's no smallest negative number, no smallest fraction, no smallest irrational number, and no smallest complex number, for reasons taught, maybe, in high school, though I'll explains some of those things to you later this year.

(b) For a reference, see "Interesting number paradox," *Wikipedia*,
https://en.wikipedia.org/wiki/Interesting_number_paradox. "The paradox is alleviated if "interesting" is instead defined objectively: for example, the smallest natural number that does not appear in an entry of the *On-Line Encyclopedia of Integer Sequences* (OEIS) was originally found to be 11630 on 12 June 2009....The mathematician and philosopher Alex Bellos suggested in 2014 that a candidate for the lowest uninteresting number would be 247 because it was, at the time, "the lowest number not to have its own page on Wikipedia". The joke was a "folk theorem" at Berkeley Math by 1970 (https://en.wikipedia.org/wiki/Talk:Interesting_number_paradox#Origin). The Wikipedia Talk section for that articles contains a lot of interesting discussion.

(c) For a serious attempt at a proof that doesn't use "proof by contradiction", but, rather, is "constructive", see "All Numbers Are Interesting: A Constructive Demonstration," Mike Keith, Aug 1998, http://www.cadaeic.net/interest.htm.

(d) You should tell this joke-proof to your parents. You should also try to prove the following:
Theorem 2. *All numbers that are multiples of 1/10 are interesting.*
Theorem 3. *All negative numbers are interesting.*
Theorem 4. *All fractions are interesting.*

You know enough to figure out how to prove Theorems 2 and 3. Theorem 4 is actually impossible to prove by our method, but trying to prove it will show you why. Which step fails? (*Hint*: What is the smallest fraction bigger than 2?)