fine, but what is "e" actually

like π, it's just a very particular number that was significant enough to give it a name

i went through all that stuff about the graph because it was
one of the easier ways to explain why it's significant

the actual number is about 2.71828... but also like π, the decimal representation goes on forever without settling down into any kind of repeating pattern (which is why it needs a name!)

it's also this (warning more calculus): $\lim_{n\to\infty}\left(1+\frac{1}{n}\right)^n = e$

which basically means if you invest $1 at 100% interest and that interest is compounded at every possible infinitesimal time increment then you will have $e at the end of the year! but i don't like that explanation as much because it has recourse to crass notions of "money" and "interest" and i want this presentation to be PURE MATH, BABEY

ok now we kind of know what all the parts of euler's identity are. let's take a look at it again

$$e^{\pi i} + 1 = 0$$

it's wild to me that these three weird numbers e, π and i have anything to do with each other, much less anything so simple