Hi, I'm Greg. I'm a NYC tutor! I love helping students. I tutor many subjects, assist with homework help, etc. I mainly specialize in specialized tests.

As it turns out, I haven't been able to get to do as many livestreams as I have in past years (yet, hopefully that changes). Therefore, I thought it would be fun to start a Problem Of The Day Series. I will put up a problem and leave it running for a while. You guys will then analyze it, and come up with possible solutions and alternative solutions on your own. I'll eventually post the answer in some manner.

For now we'll play it by ear how that will happen and for how long I'll leave up a problem. But right now I'm thinking of keeping the problem up maybe 2 hours minimum and maybe even in some cases 4 or 5 hours depending upon the dynamics and my situation. Unlike my AMA (Ask Me Anything) lifestream sessions, I will not be checking in every few minutes although I may from time to time join into the discussion. Again, the idea is for you guys to discuss out the problem.

Please be respectful to each other in this endeavor and let's make this fun, educational and forward-thinking. Keep the comments within the spirit of what I'm doing here. Please email me at GregsTutoringNYC@gmail.com if needed.

HERE'S THE PROBLEM: <———
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The square of taking i raised to the ith power is 729. What is the value of i?

HERE'S THE SOLUTION:
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We just have to do the operations in reverse order to solve this:

$\sqrt{729}$ = ?

You should know 30 x 30 is 900 (too high) and 25 x 25 = 625 (too low).

To get the 9 in the ones column of 729 we must be multiplying something ending in a 3 hence 3 x 3 or ending in a 7 hence 7 x 7. Since 25 was too low then 23 is too low too and therefore won't work either, so there's a pretty good possibility it's 27 and it is:

$\sqrt{729}$ = 27

27 is small enough that "we got this" to figure out i^i:
3^3 = 27

.: i = 3

This problem maps into 3^6 and other possibilities, but they don't help us much to reverse 729 back to 3 without going beyond the scope of the problem if you will.

— Greg / GregsTutoringNYC@gmail.com   LLAP ☺