

CK Estimathon - 2025

1. How many islands does the country with most islands have?
2. How many counties are there in Michigan?
3. What is the Collatz number ($3n+1$ for odd, $n/2$ for even, # of steps to get 1) for 2025?
4. From 2015 to 2024, calculate the sum of squares of # of days that the low temperature fell below 32 F (0 C) each year in Detroit Michigan.
5. Suppose there were 20 random Cranbrook Students gathered in the math dungeon for a quiz. The probability that two or more share the same birthday can be represented as $\frac{1}{m}$. Estimate m.
6. What is the probability that an integer chosen at random has no square divisors (other than 1) is $\frac{1}{n}$. Estimate n.
7. How many times should you fold a paper with thickness 0.01 mm to reach the moon?
8. How many planetary moons orbit the 8 planets of the solar system? Exclude Pluto.
9. How many ones are there if “20252025” is represented in binary?
10. Estimate the sum of primes from 2025 to 4100625 (2025^2).
11. From a geology perspective, we are part of the North American plate. How fast are we moving, in terms of meters per second?
12. How many possible configurations are there in a $3 \times 3 \times 3$ rubik's cube? Cubes are identical if they can be rotated in some way to look identical.
13. Whew that was a lot! Now, what is the minimum number of moves (rotating faces) that guarantees a random cube to be solved (original configuration)?