

# Fermi Questions C

By Neil Mehta

Name(s):

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Team name:

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1. How many copies of Campbell's Biology would it take to cover the entire state of Texas?
2. If you traveled at the speed of human hair growth, how many years would it take to travel one light-year?
3. What was the collective kinetic energy of every single runner in the 2016 Boston Marathon in joules?
4. If every human being in the world was given an equal plot of the earth (2 dimensional) until the whole world was covered up, how large would each plot be, in  $\text{cm}^2$ ?
5. Same as above, except humans can only get plots of land, not ocean
6. If every single Science Olympiad competitor stood shoulder-to-shoulder forming a line, how many times could that line wrap around the Eiffel Tower?
7. How many times has the Earth traveled around the sun?
8. What is  $4^{20}$ ?
9. How many views do the top five most viewed videos have on Youtube, collectively?
10. How many nanometers thick is a sheet of paper?
11. How many crayons would it take to wrap around the Moon?

12. How many sugar cubes would it take to cover an acre of space?
13. How many centimeters of ink can a regular ballpoint pen draw?
14. What is the age of the earth in seconds?
15. How many grams of sugar would be present in an Olympic-sized swimming pool full of Coca Cola?
16. What is the GDP of the United States in cents?
17. How many words are in J.D. Salinger's *The Catcher in the Rye*?
18. What is the total student loan debt in the United States?
19. How many light-minutes away is Alpha Centauri?
20. How many web pages are present on the internet?
21. How many *E. Coli* bacteria would have to lay end-to end (lengthwise) to span the length of a meter stick?
22. How many times faster is the speed of light than the top speed of most minivans?
23. What is  $2^{100}$ ?
24. What is the binary number 1001011001 converted to base-10?

25. How many Rubik's Cubes, stacked one on top of the other, would it take to reach the height of the Empire State Building?
26. What is the population of North Carolina?
27. How many football fields would it take to cover the Moon (assuming it is a perfect sphere)?
28. How many times could the Moonlight Sonata be played in the time period that dinosaurs lived on the Earth?
29. How many competitors (not including alternates) were present at SONT 2017?
30. How many baguettes would have to be placed lengthwise, end-to-end, to span the entire border of France?
31. How many letters are there in the chemical name for titin?
32. What is the power output of the sun in watts at any moment?
33. How many calories would a 180 lb person burn if walking from New York City to Los Angeles?
34. What is the temperature of Polaris in Kelvin?
35. How many cases of cholera are there per year?
36. How many thunderstorms happen throughout Earth in a day?

37. How many pixels are in a 4K television?
38. What is the radius (in meters) of an electron?
39. What is the diameter of the Solar System (in meters)?
40. How many characters (not including spaces) were in this test?