Part One: Actual Fermi Questions

1. How many stray cats are there in the US?
   Answer: ____  Points: 1 3 5

2. How many birds do those cats kill a year?
   Answer: ____  Points: 1 3 5

3. How many bees have died from colony collapse disorder since it’s documentation?
   Answer: ____  Points: 1 3 5

4. What is the ratio of domesticated mammals to non domesticated mammals?
   Answer: ____  Points: 1 3 5

5. How many chairs are in the Brookwood building?
   Answer: ____  Points: 1 3 5

6. How many people have died since Stephen Hawking was born?
   Answer: ____  Points: 1 3 5

7. How many people have competed in national science olympiad since its conception?
   Answer: ____  Points: 1 3 5

8. How many people have died from the beginning of this test?
   Answer: ____  Points: 1 3 5

9. How many homeless people died in Canada last year?
   Answer: ____  Points: 1 3 5

10. How many different smells can the average person distinguish?
    Answer: ____  Points: 1 3 5

11. How much money does it cost to operate the average school?
    Answer: ____  Points: 1 3 5

12. How many grains of pollen are in this room right now?
    Answer: ____  Points: 1 3 5

13. How likely are you to be the victim of a terror attack?
    Answer: ____  Points: 1 3 5

14. How many people died in road accidents last year?
    Answer: ____  Points: 1 3 5

15. How many grams of deadliest poison would kill you?
    Answer: ____  Points: 1 3 5

16. How many times better selling is the nintendo switch than the Wii U?
    Answer: ____  Points: 1 3 5
17. How much money does the smartphone industry make in the US?
   Answer:____

18. How many times more energy does Somalia use than China?
   Answer:____

19. How many food calories are burned by all of the Boston marathon runner?
   Answer:____

20. How many prime numbers have been found?
   Answer:____

21. How many Americans drop out of high school a year?
   Answer:____

22. How wide is the dot at the end of this sentence in meters?
   Answer:____

23. How much money in dollars does fortnite make in a month?
   Answer:____

24. How much does the college board make a year?
   Answer:____

25. How many following people does the average person have?
   Answer:____

26. How many movies have a 100% on rotten tomatoes?
   Answer:____

27. What are the odds of getting a perfect ncaa bracket?
   Answer:____

28. What are the odds of hitting the roulette correctly 6 times in a row?
   Answer:____

29. How many times louder is breathing than a chainsaw?
   Answer:____

30. How much in dollars does friends (tv show) make a year?
   Answer:____

31. How many minutes would it take to binge the simpsons?
   Answer:____

32. How many hours would it take to binge friends?
   Answer:____

33. How many google searches are made from mobile devices a month?
   Answer:____

34. How many hours of youtube VR have been watched?
   Answer:____
35. How many active users does Google Plus have?
   Answer: ____  Points: 1 3 5

36. How many games on Steam have never been played?
   Answer: ____  Points: 1 3 5

37. How many animes are registered in your anime list?
   Answer: ____  Points: 1 3 5

38. How many minutes would it take to watch everything on Netflix?
   Answer: ____  Points: 1 3 5

39. What is 1000!+999!+998!...1!?
   Answer: ____  Points: 1 3 5

40. How many times is an apple worth compared to Apple?
   Answer: ____  Points: 1 3 5

41. How many gold medals has the US Olympic team won total?
   Answer: ____  Points: 1 3 5

42. How many snaps are sent every year?
   Answer: ____  Points: 1 3 5

43. What is this question number to the fortieth power?
   Answer: ____  Points: 1 3 5

Part one score:
   Number of ones: ____
   Number of Threes: ____
   Number of Fives: ____
   Total Part one Score: ____
Part two: *For the following questions, show every step of your answer. Each of these questions are worth up to fifteen points.*

44. If you take out all of the salt in the ocean once every millenia and compress it into a ball 1 meter in radius, repeating the process every millenia, with each iteration adding more salt to the ball, but not changing the radius, how long would it take for that salt ball to collapse into a black hole in seconds? (For the question, assume that the salt magically replenishes itself each time you extract.)

**Answer:**

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Points: 3 9 15

45. Assume that in an alternate universe stars are created by omnipotent beings in factories, in which one mole of hydrogen molecules is added to a chamber every yoctosecond until a star is created. In the time that it took you to create the black hole in question 44, how many stars can be churned out by the factory?

**Answer:**

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Points: 3 9 15
46. Consider the amount of people killed by the black plague in Europe during the 13th-14th century. About how many times more people has died from heart disease in the past two decades than the black plague has killed?
Answer:________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Points: 3 9 15

47. On average, about how many grams of carbon-dioxide do the cars of the continent of Africa emit into the atmosphere each nanosecond?
Answer:________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Points: 3 9 15

48. Consider all of the trees on earth. About how many times greater are the trees CO2 consumption than the CO2 emission you calculated in question 47?
Answer:________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Points: 3 9 15
49. How many electrons of neutral hydrogen can be ionized from n=2 to n=3 by the energy a cell produces in a second, if that energy can be used completely to ionize?
   Answer: ___________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

   Points: 3 9 15
50. Waffles famously are just pancakes with abs. How many abs do the customers of waffle house consume in a year?
   Answer: ___________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

   Points: 3 9 15
   **Part two score:**
   Number of Threes: ____
   Number of Nines: ____
   Number of Fifteens: ____
   **Total Part two Score:** ____
   **Total Part one Score:** ____
   **Total Score:** ________