[Fremi Q's & Estimathon Prep]

Carolina Poker Club: Problem Set 4

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1 First-order Fermi problems

1. How many cups of water do the residents of North Carolina drink daily?

2. How many cups of water *should* the residents of North Carolina drink daily (according to recommended daily water intake)?

3. How many kias were stolen in 2023 in America?

4. How many calories does the average person burn in one 30 minute gym session?

5. How many times does an average restaurant fork get washed in its lifetime?

2   Second-order Fermi problems

1. How many emails does america send each day?

2. How much more or less profitable is an investment in gold in 1924 vs an equal investment in S&P 500 in 1924?

3. What is the cumulative age of all the bridges (over water) in NYC?

4. How many school bus lengths away is the moon from the Earth?

5. If you were to drive a school bus to the Moon at the average US highway speed, how many days would it take you to get to the moon?

3 Solutions

3.1 First-order Fermi problems

1. 42,802,566.3

2. 87,800,136 to 148,162,730

3. 83,163

4. 180

5. 2,600 (answer uncertain)

3.2 Second-order Fermi problems

1. 9.7 billion

2. Gold: 6.62x S&P: 1372.0148x $\implies$ S&P has been 207 times more profitable

3. 2,299

4. 31,537,344

5. 153