

Physics 596 – Fall 2022

Fermi Problems #2

Solve, as a group, the following Fermi problems: No handbooks, calculators, or computers allowed!

(1). How much money did American consumers pay to fill up their cars with gas last year?

(2). How much kinetic energy does the earth have due to its rotation about the sun? How much rotational kinetic energy does the earth have?

(3). In a letter to the Royal Society in 1774, Ben Franklin reported that the equivalent of 0.1 cm^3 of oil dropped on a lake spread to a maximum area of 40 m^2 . What is the thickness of the oil and does this make sense?