LIFE IN THE UNIVERSE — AST 07

HW #14

Q1: Match the proposed or actual project below with its method of propulsion

A) Saturn V rocket	1) Nuclear fusion
B) Russian RD-0410	2) Solar sail
C) Orion (original project, not the current one)	3) Ion drive
D) Hyabusa probe	4) Liquid oxygen, kerosene, hydrogen
E) Ikaros	5) Nuclear fission

Q2: How might a stable wormhole make it convenient to travel vast distances in space.

Q3: Our galaxy is about 11 billion years. Write this number out in either scientific notation, or expand it out with all the zeroes written down (ex: 5×10^6 or 5000000).

Q4: It would take a civilization to about 50 million years to explore our galaxy. As in question #3, write out this number.

Q5: Divide the age of our galaxy (answer #3, above), by how long it would take to explore it (answer #4, above). Notice that both numbers are in years, so in your answer, the units will cancel, and you will just have a number. What did you get? (This number represents how many times you could explore the galaxy, compared to its age.)