

CSC 400 Estimation Questions

September 8, 2006

Document your sources and describe your reasoning and assumptions in answering the following questions. For uncertain quantities, it is wise to consult more than one source. Do your own calculation rather than looking up the answers (which might very well be wrong).

1. How many trips by individual honeybees are required to produce a kilogram of honey? How many flowers are visited? For typical distances between hive and flower patches (justify), how many kilometers are collectively flown?
2. How many fish are in the sea? What is their collective mass? How does that quantity compare to the collective mass of humanity?
3. How much paper (in terms of total area) was manufactured in the world last year?. How much forest was cut to manufacture it? How much has been manufactured over the entire course of history? Would it be enough to wrap the earth?
4. How much area in the greater Rochester Metropolitan Area (say Monroe County) is covered by tended lawns? How many blades of grass do these comprise? How much lawn area is there in the entire United States? How does the acreage compare to that for corn and wheat?