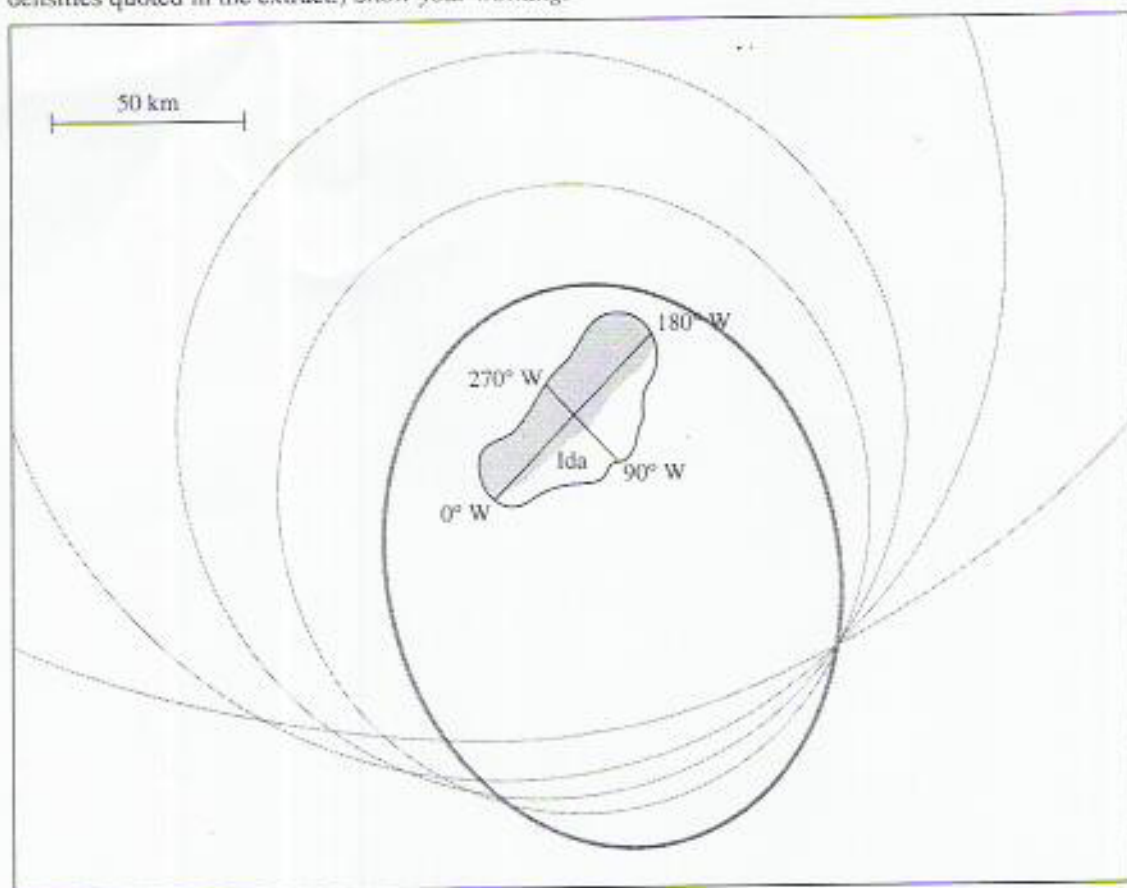


- (ii) (3 marks) Calculate Ida's maximum possible density, using the mass you calculated in (i). Express your result to two significant figures. (Do not be surprised if this density falls outside the possible range of densities quoted in the extract.) Show your working.



**Figure 2** Some possible orbits of Dactyl about Ida, as deduced from *Galileo* images. Ida is drawn to scale, in the orientation it had at the time when all the permissible orbits crossed. The orbit shown by a bold line is the one you should use to answer question 3(d).

#### Question 4

This question relates to Block 2 Chapter 3, and carries 10% of the marks for this assignment.

- Briefly describe two different lines of evidence (not *theory*) that suggest that the Earth is compositionally layered. (One sentence each)
- Describe the processes that may have contributed to the development of the Earth's differentiated structure. (100–200 words)