

ALIF LAILA BOOK BUS SOCIETY

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# Introductory Astronomy

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BEGINNER AND ADVANCED PRACTICE PROBLEMS

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## Part 1: Observational Techniques and Logic

### Question 1

What is the scientific method? How does it help us to learn about our universe?

### Question 2

Give an example of an observation you could make using the scientific method and walk through all of the steps.

### Question 3 (Advanced Question)

The sun is directly overhead in the city of Syene while at the same time, the sun casts a shadow on a stick at  $7.2^\circ$  relative to the vertical axis of the stick. Alexandria and Syene are 800 km apart and Syene is directly north of Alexandria. Assume all of the light rays from the sun falling onto the Earth are parallel to each other. What is the radius of the Earth?

### Question 4 (Advanced Question)