

Astronomy homework assignment

[Science](#), [Physics](#)



Question Like most Greek philosophers, Aristotle also believed that the universe existed infinitely (Woolfson 25). When Einstein came up with the revolutionary theory of relativity in 1951, he proposed that space and time were dynamic quantities shaped by energy. There was no background of events hence was not possible to talk of time before the universe began. There are problems that arise with the theory of infinite age, since the physical observations seem to contradict the idea. An excellent example is the stars and galaxies. Stars do not have a uniform distribution in space. Galaxies are not close to each other. Hence, perhaps at one point, there were star clusters at one place and galaxies closer to each other.

Question 2

The brilliant, Greek mathematician and astronomer, Eratosthenes of Cyrene had an easier way of using geometry in determining the size of the earth (Woolfson 22). He assumed that the sun was miles away, perhaps compared to the distance between the ancient city Cyrene and Alexandria in Egypt where he was the chief librarian. Hence, concluding that the rays from the sun at these locations must have been parallel. There is an error in this assumption because the sun is in constant motion and Cyrene is also due south of Alexandria. Hence, such parallel angles in locations, as he suggested are likely to change.

Question 3

Though Ptolemaic system had several observable failings, it still remained as an accepted science for more than 1800 years (Woolfson 24). Perhaps it is because it was a geocentric model which had unanswerable questions which were mostly based on rational reasoning. In addition, the Catholic Church in

the middle ages had supreme authority and had widely accepted Ptolemy's philosophy. Therefore, any person opposed to the geocentric system got punished because the person was guilty of heresy, a crime at time.

Question 4

Galileo proved that the sun was at the centre, based on several observations he made about Venus (Woolfson 34). By using the telescope he saw that Venus had similar phases to the moon. The nature of these phases was only explainable if Venus was going around the sun. Through this he found out that Earth orbits around the Sun, proving that the Sun is at the centre.

Question 5

During Nicholas De Cusa's time in 1401 to 1464, The Catholic Church was not the supreme authority because his views showed that he believed that each religion is of equal value. During Giordano Bruno's time in 1584, The Catholic Church had a lot of powers sentenced people to death for a crime such as witchcraft (Woolfson 35). Hence, the reason that led to Bruno being burned at the stake.

Work Cited

Woolfson, Michael. The Formation of the Solar System. London: Imperial College Press, 2007.