

Below, there are two **required** questions and some number of **extra-credit** question, worth the same as the two required questions. Make sure to **clearly** indicate your answer. Don't include any notes/writing on the quiz other than circling your answer. This quiz is **closed book/notes**, and should take roughly **5 minutes** to complete.

Name: \_\_\_\_\_



1. Shown above is an image of the Moon in the waning crescent phase. In the diagram below, circle the position of the Moon in the sky corresponding to this phase.



2. The light emitted by the Sun must be:
- (a) Isotropic, originating from the center, otherwise the phases of the Moon wouldn't be the way we observe them to be.
  - (b) Isotropic, originating from the center, otherwise solar eclipses by the Moon wouldn't occur the way we observe them to occur.
  - (c) Isotropic, originating from the surface, otherwise solar eclipses by the Moon wouldn't occur the way we observe them to occur.
  - (d) Isotropic, originating from the surface, otherwise the phases of the Moon wouldn't be the way we observe them to be.
3. **EXTRA CREDIT** There is something known as the "anthropic principle," which states that the laws of physics have to be the way they are, otherwise human beings wouldn't exist to observe the laws of physics. Is the anthropic principle a scientific statement?
- (a) Yes
  - (b) No