Ancient Astronomy Final Outline

For Final on Monday, Dec. 11, 2023 — Covering Evans Chapters 5-7

This is an outline of possible topics for final questions which follows closely what we covered during the second half of the semester (with changes made during our Sunday, Dec. 10 review session).

0. Solar Theory (Section 5.10)

1. Ecliptic Longitude using Moon, Moon parallax, and an eclipse of the Moon (Sections 6.4 and 6.5)

2. Precession of the first point of Aries

3. Babylon planetary theory, especially System A′ (but we will keep it simple and do no overshooting)

4. Interpretation of tables of observations, including locating retrograde periods, interpolating to find the date of opposition, and interpolating to find the ecliptic longitude of opposition

5. Estimation of tropical and synodic periods

6. Calculations of planetary positions in the style of Appolonius

7. The problem with simply moving the circle to an off-center point, and Ptolemy's introduction of the equant to solve this problem

8. Calculations of planetary positions in the style of Ptolemy (I will probably provide a drawing and a protractor for you to measure from rather than have you use your slats)

9. ~~Determination of Ptolemy's parameters à la Sections 7.19 and 7.20~~ (struck to keep the amount and complexity of the exam manageable)

10. The Equivalence of Earth-centric predictions and Sun-centric predictions (Section 7.29)