

Assignment 4: Week of January 29

Babylonian Astronomy

Reading: Study handouts. Read Calinger, pp. 37–45, “The Rise of Theoretical Mathematics in Ancient Greece,” biography of Proclus, his “Catalogue of Geometers,” biography of Pythagoras (pp. 47–52).

Problems. Due Thursday, Feb 8.

1. Report the date, hour, and angular separation of Jupiter and Saturn. (Use this to begin a log of weekly astronomical observations which you will keep this semester).
2. Determine from your observations how many degrees Jupiter is from opposition.
3. Estimate the elongation of Venus by observing it just after sunset. What can you conclude about the relative sizes of the orbits of the Earth and of Venus? (Heliocentric model).
4. By observing the pole star, determine your latitude.
5. In class we began to construct a table of the sun’s position at ten day intervals using the methods of Babylonian system B. Complete the table through the month of August. Compare (and discuss) the actual and predicted positions of the sun using both the mean motion model and the system B model. (Your table will have about 24 rows in it. You can use either the decimal or the sexagesimal system. You can also use a spreadsheet.)