

Fri: Read 2.4

HW by 5pm

- turn in on paper - can attach diagrams

- last question is a reading exercise

\* scans on D2L

\* only checked for completeness

Seminar

Thurs

Solar System Models

We attempt to understand the behavior of the solar system by constructing a model and using this to predict what we might observe. Schematically

MODEL

- \* specify the constituent objects
- \* specify the basic rules for their behavior

PREDICTION

- \* Consider a specific situation
- \* Use rules for model to predict what we could observe

OBSERVATION

- \* Observe the true behavior of the system

↔ COMPARE

EXAMPLE (Solar system)

- \* Constituents: Sun, Moon, Earth, planets, stars
- \* approximate positions e.g. Moon closer to Earth than Sun

MODEL

- \* Predict position of e.g. Saturn against background stars
  - \* Predict phase of Saturn over duration of orbit
  - \* Predict apparent size
- PREDICTION

- \* Observe position
  - \* Observe phase
  - \* Observe apparent size
- OBSERVATION

↔ COMPARE

The possible observations are:

- 1) Apparent position Where the object appears to be when viewed from Earth

→ Draw straight line from Earth to object → background stars.

Quiz 1 90%

Solution ✓

Quiz 2 80% - 90%

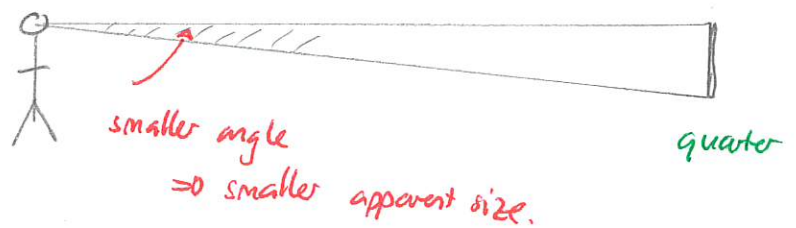
Solution

- 2) Apparent motion: How the object appears to move against the background stars when viewed from Earth.

Demo UMM Heliocentric - observe Venus - slow down.

↳ observe apparent position

- 3) Apparent size - the angular size as viewed from Earth.



Quiz 3

- 4) Phases of an object.

Note that to address this

\* shade object

\* draw field of view and

see what portion is shaded/not.

