25.1 Notes - Properties of Stars

Stars in the Sky

- A ________________________ is an apparent group of stars originally named for mythical characters. The sky contains ______ constellation(s).
- The stars in a constellation ______________ to be the ______ distance from Earth, but they are actually located at __________________________.

Characteristics of Stars

- Star Color and Temperature
  - ___________ is a clue to a star’s ____________________
- Binary Stars and Stellar Mass
  - A ___________ ___________ is one of two stars revolving around a common ______________ of __________ under their mutual gravitational attraction.
  - ___________ ___________ are used to determine the star property most difficult to __________________—its ____________.

Measuring Distances to Stars

- ___________ is the slight shifting of the apparent position of a star due to the ___________ motion of Earth.
- The _______________ stars have the _______________ parallax angles, while those of _______________ stars are too __________ to ______________.

- A _______________ is the distance light travels in a year, about 9.5 trillion kilometers.
Stellar Brightness

- ___________________ _______________ is the brightness of a star when viewed from Earth.
  - _____ factors control the apparent brightness of a star as seen from Earth: 1) how ______ it is, 2) how ______ it is, & 3) how ______ __________ it is.
- ___________________ _______________ is the apparent brightness of a star if it were viewed from a distance of 32.6 light-years (how bright a star actually is).

Hertzsprung-Russell diagram (H–R diagram)

- A Hertzsprung–Russell diagram shows the __________________ between the ________________ magnitude and ________________ of stars.
- A _______________________ ________ is a star that falls into the main sequence category on the H–R diagram. This category contains the ________________ of stars and runs ________________ from the ________________ ________ to the ________________ ________ on the H–R diagram.
- A _____ ________ is a large, cool star of high luminosity; it occupies the ________________ portion of the H–R diagram.
- A _______________________ is a very large, very bright red giant star.
- **Variable Stars**
  - A _______________________ _______________ is a star whose brightness varies periodically because it ________________ and ________________; it is a type of ________________ star.
  - A _____ is a star that ________________ increases in _____________________.
- **Interstellar Matter**
  - ________________: clouds of dust and gases in space
  - There are _____ major types of nebulae:
    - ________________ nebula
    - ________________ nebula
    - ________________ nebula
    - ________________ nebula