

# Review of Part 2

- Properties of Stars
  - Distances, luminosities, spectral types, temperatures, sizes
  - Binary stars, methods of estimating mass, stellar masses
- The HR Diagram
  - Spectral type, absolute magnitude, using the HR diagram
- Stellar Evolution (Low Mass and High Mass stars)
  - Hydrostatic equilibrium, sources of energy, energy transport
  - Evolution in the HR diagram
- Stellar Endpoints
  - Planetary nebulae, white dwarfs, supernovae, neutron stars
  - Black holes
- Binary Star Evolution
  - Mass transfer and accretion; novae

- How to study:
  - Go over homeworks, make sure you understand the answers
  - Read through lecture notes AND the book
  - Try to answer review questions at the end of each chapter
- How to get help:
  - My office hours this week: Thursday 2-4 pm, Friday 1-3pm, & Monday 3-5 pm in 515A Davey Lab (or by appointment)
  - TA office hours: Thursday 1 - 5:30 pm, Friday 1 - 3 pm, Monday 1-5:30 pm in 445 Davey
- What to bring:
  - #2 pencil
  - PSU ID Card
  - Please try to arrive a few minutes early on Tuesday, spread out in classroom
- Format of Test
  - 50 multiple choice questions
  - Closed book/notes
  - You will not need a calculator

## Sample Question 1

- Which star may someday turn into a neutron star
  - (A) Procyon, an F main-sequence star
  - (B) Spica, an O main sequence star
  - (C) Wolfe 359, an M main sequence star
  - (D) Sirius B, a white dwarf
  - (E) BD+30 3639, the central star of a planetary nebula

## Sample Question 2

- Which property depends on how far a star is away from us?
  - (A) its absolute magnitude
  - (B) its apparent magnitude
  - (C) its temperature
  - (D) its spectral type
  - (E) its mass

## Sample Question 3

- Observations of binary stars are useful for determining stellar
  - (A) temperatures
  - (B) distances
  - (C) luminosities
  - (D) spectral types
  - (E) masses

# The H-R Diagram

