

400. A main sequence star that is in the top left corner of the HR diagram has a mass that is this compared to the sun's mass. Greater

500. This is what the "HR" in HR diagram stands for. Elnar Hertzsprung and Henry Norris Russell, who both (independently) wrote down the first HR diagram

Stellar Evolution

100. This is the most important physical characteristic of a star and directly determines all of its other properties. Mass

200. A gravitationally bound cloud of gas that cannot get hot enough to become a star is called this. Brown dwarf

300. This object can be observed when a dying low mass star puffs off its outer layers. Planetary nebula

400. These are two differences between globular clusters and open clusters.
Globular clusters are older, have more stars, are more densely populated, and are found in the galactic halo (while open clusters are found in the galactic disk)

500. Mass transfer in a binary system occurs when one of the stars grows larger than this. Roche lobe (or Roche limit or Roche surface or Roche volume) (the point where the two stars' Roche lobes touch is called the Lagrange point) the book doesn't mention these names

Stellar Death

100. A collapsed star that is so massive and dense that not even light can escape it is called this. Black hole

200. Gold is heavier than iron, thus all of the gold in the universe must have been made by these astrophysical events. Supernovae

300. White dwarfs are made primarily of these two elements. Carbon and oxygen

400. These are some of the most accurate clocks in the Universe and are associated with the stellar corpse of a massive star. Pulsar

500. White dwarfs are supported by the degeneracy pressure caused by these particles. Electrons

Final Jeopardy - Compact Objects

A teaspoon of neutron star material on Earth weighs about as much as this.
A large mountain (e.g. Mt. Everest)

The infinitely dense point at the center of a black hole is called this. Singularity