

Physics U111 – Introduction to Astronomy – Fall 2007  
Professor Vaughn  
Quiz #8 – 29 November 2007

Your name \_\_\_\_\_

**True or False** (2 points each)

1. The interstellar medium absorbs red light more strongly than blue.
2. The Sun will spend about ten million years on the main sequence.
3. Larger stars burn out more quickly than smaller ones.
4. A typical solar mass star will appear as a white dwarf before it expands to become a main sequence star.
5. Observational support for our models of stellar evolution is provided by a study of the H-R diagrams of star clusters.

**Fill in the blanks** (3 points each)

1. The total energy per unit time radiated by a star is called its \_\_\_\_\_
2. Interstellar clouds are observed through radiation at \_\_\_\_\_ frequencies.
3. The main constituent of a solar mass star as it leaves the main sequence is \_\_\_\_\_
4. 21-cm radiation is due to the flip of the electron spin in a \_\_\_\_\_.
5. Dark dust clouds can have temperatures as low as \_\_\_\_\_ K.
6. A main sequence star does not collapse under its own weight because of the outward \_\_\_\_\_ produced by the hot gases in the stellar interior.

**Multiple choice** (3 points each)

1. The distance to star clusters can be measured fairly accurately because
  - a) all stars in the cluster have about the same brightness.
  - b) reddening by interstellar dust does not affect clusters.
  - c) most stars in the cluster are on the main sequence.
  - d) all stars in the cluster are at about the same distance.
  - e) the combination of c) and d).
2. The temperature required to ignite the p-p chain is about
  - a) one million K
  - b) ten million K
  - c) 100 million K
  - d) 600 million K
  - e) 10 billion K