ISP 205
Review Questions, Week 10

This is not required homework. It will not be graded. Answers will be supplied next week.

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1. What is the Sun's source of energy?

2. Every little piece of the Sun attracts every other little piece of the Sun through the force of Gravity. Why don't all of the pieces just pull themselves together into an infinitesimally small clump at the center?

3. Using the Hertzprung-Russell diagram in Figure 1, match the number with the type of star that is located at that position:
   a) Our Sun
   b) Very cool main sequence star.
   c) Very hot main sequence star.
   d) White dwarf.
   e) Supergiant.
   f) Red Giant.

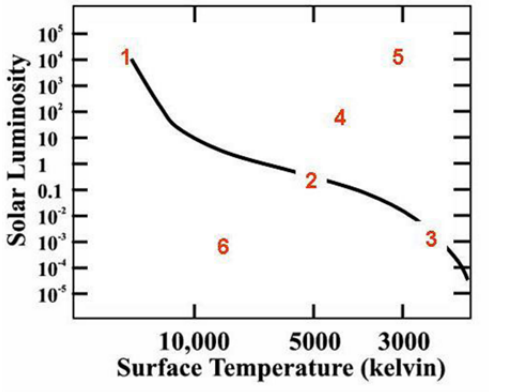

Figure 1

4. If you compare two stars that have the same surface temperatures, but one star is 10,000 times more luminous than the other, what are the relative diameters of the two stars?

5. Referring to Figure 1, which star on the H-R diagram sketch is most massive: Star 1, star 2, or star 3?

6. Referring to Figure 1, what nuclear reaction, located where in the star, is powering stars 1, 2 and 3?

7. The dashed red line on the H-R diagram in Fig. 2 sketches the evolutionary path of a star similar to the Sun. Match each of the numbered points along the path with the description of what is happening to the star.
   a) Expelling outer envelope.
   b) Inert core; He and H burning shells.
   c) Burning H in core.
   d) He burning core; H burning shell.
   e) Core is inert; burning H in shell.

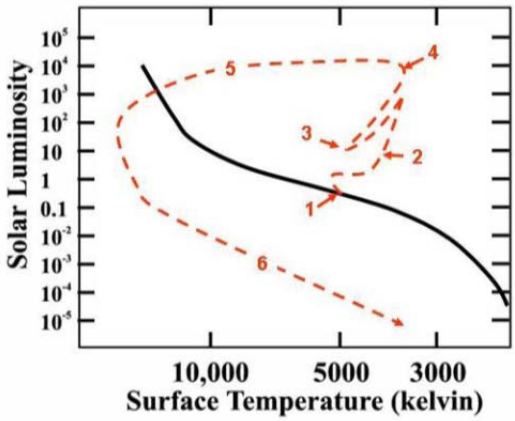

Figure 2