

# ASTRONOMY 020

Problem Set #15

Due: February 6, 2004

1. Zeilik & Gregory, Chapter 13, problem 1.
2. Zeilik & Gregory, Chapter 13, problem 7.
3. use Figures 13-8 and 13-9 in your text to estimate the distance to the Pleiades star cluster. Use Table A4-3 to convert  $B - V$  to spectral type. Explain carefully each step you take.
4. Using the H-R diagram in Figure 13-7 in your text and the relation between temperature and spectral type in Figure 13-6, estimate how many times larger is Betelgeuse than  $\alpha$  Centauri.

## Practice Problems:

1. Zeilik & Gregory, Chapter 13, problem 3.  
Answer: about 0.5 mag.
2. Zeilik & Gregory, Chapter 13, problem 13.  
Answer:  $d = 126$  pc.
3. Zeilik & Gregory, Chapter 13, problem 10.