

# Assignment 12

For this assignment, you can make the drawing on a sheet of paper, take a picture, and copy/paste it into word. I'm happy to help if you have any trouble with the picture. The final assignment is just a word file with the picture and the paragraph of explanation below it.

1. *Draw a simple HR-diagram.*

- (a) *(5 points) Indicate the region of Main sequence stars, red giants, supergiants, white dwarfs, and red dwarfs..*
- (b) *(15 points) Combine the concepts of Figures 21.12, 22.5, and 23.4 to sketch, in another color, the life cycle of a (i) low-mass star and (ii) high-mass star on the same HR-diagram. To do this part successfully, you'll have to define your axes and include numbers on them to portray the scale.*
- (c) *(20 points) In a paragraph, explain the life cycle of (i) a white dwarf, (ii) a neutron star, and (iii) a black hole. You should cover every stage of the last figure of the Ch 23 notes.*