

AS102 - Homework Assignment #7

Due: no later than 5:00pm on Friday, April 9, 2010

Be sure to put your homework in the right slot of the Homework Box

All questions below are taken from the 5th edition of “Stars, Galaxies, and Cosmology” by Bennett, Donahue, Schneider and Voit.

Chapter 19, pgs. 631-632

Quick Quiz questions (8 points each): 29, 35, 36 (note: an “ionization nebula” is the same thing as an H-II region)

Quantitative problems:

49 (8 points) - hint: assume the orbit of the LMC is circular

56 (8 points) - hint: assume the mass ejected is $10 M_{\text{sun}} = 1.99 \times 10^{31}$ kg

Chapter 20, pgs. 655-656

Quick Quiz questions (8 points each): 27, 29, 31, 33

Quantitative problems:

49 (9 points)

50 (10 points)

53 (9 points)

Notes:

- When you answer the Quick Quiz questions, write down the letter for your answer (e.g., “a”, “b”, or “c”) **AND** explanation for why the letter you chose is the correct answer. Your explanation of your answer is worth 5 of the 8 points for each question.
- On the quantitative problems **show all of your work**. If you just write down an answer and don’t show how you got it, you will receive a grade of zero.
- Be sure to include **units of measurement** as appropriate to your solution for quantitative problems.
- If a quantitative problem asks you to “compare” two values, you should **compute a ratio**.
- You may need to use the book to look up some numbers to solve the quantitative problems.