

NORTHERN ILLINOIS UNIVERSITY

PHYSICS DEPARTMENT

Physics 162 – Astronomy

Spring 2024

Problem Set #11

Problem Set Due: Thurs., May 2, 2024

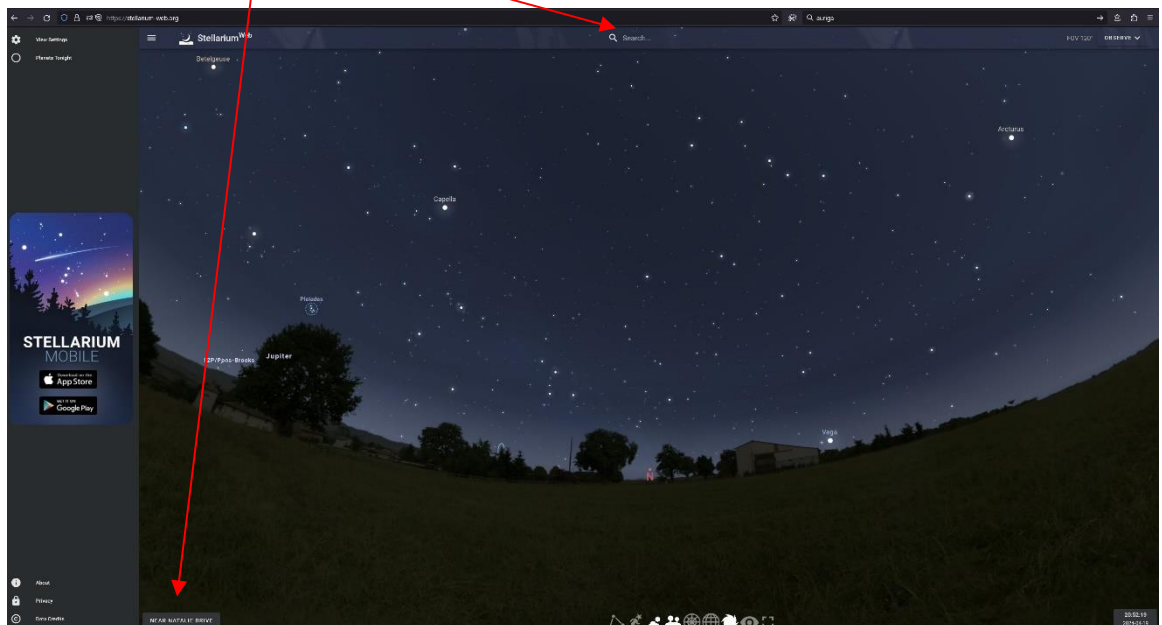
Read OpenStax: Chapter 29

Show explicitly all your work for full credit.

- | | |
|-----------------------|------------------|
| 1. Expert TA: 29.1.1 | multiple choice |
| 2. Expert TA: 29.1.6 | multiple choice |
| 3. Expert TA: 29.1.11 | multiple choice |
| 4. Expert TA: 29.1.17 | multiple choice |
| 5. Expert TA: 29.1.19 | multiple choice |
| 6. Expert TA: 29.1.30 | multiple choice |
| 7. Expert TA: 29.1.35 | multiple choice |
| 8. Expert TA: 29.1.43 | multiple choice |
| 9. Expert TA: 29.2.7 | show calculation |
| 10. Expert TA: 29.3.4 | draw figure |
| 11. Expert TA: 29.6.4 | true/false |
| 12. Expert TA: 29.6.8 | true/false |

13. Go to the Stellarium Webpage: <https://stellarium-web.org/>

Click on the “Unknown” button in the bottom left corner and select your location as DeKalb, Il. Use the “Search” field to find the Orion constellation.





Turn off the atmosphere button so that the sky looks black.

(a) Click on the screen outside the Orion constellation to turn off the graphical figure of Orion. You may need to change the date or time so that the entire constellation can be seen. Take a magnified picture (*so that the names of the stars show up*) of the Orion constellation (like you did in the last problem set). Use the *snipping tool* in Windows or the Mac to take the picture:

For Windows: Press **Windows logo key + Shift + S** at the same time

For the Mac: press the **Shift+Command+5** keys at the same time

(b) In the “sword” of Orion lies the Orion Nebula called Messier 42 (or M42). Take a magnified picture of this nebula (*so that the names of the collection of stars in the nebula show*). Also, Google “Orion Nebula” and get a nice picture of the Orion Nebula taken by the Hubble Telescope (there is one in Wikipedia).

Combine your handwritten homework with your 3 pictures into a single Word document and save as a pdf file and upload to Blackboard.

Try to see if you can find the Orion constellation in the night sky using the location given by the stellarium (you will have to determine how to face west).