Using Night Vision to Study the Stars and Planets   **Name** _____

1. Download and install Night Vision (http://www.nvastro.com/nvj.html)

2. Launch the program. Choose Set > Location from the menu along the top. Choose Chicago, Illinois USA from the choices provided.

3. Set the local time to the current date and time. _____

4. Locate the sun. Right click on the sun for more information. What is its magnitude? (a)_____

5. Using the Internet - determine what zodiac sign the sun is in today? (b)_____

6. Locate that zodiac sign in the sky. Where is it in relationship to the sun compared to other zodiac signs?

   (c)_____

5. What other planets would be visible now if the sun was not so bright? (d)_____

   _____

6. Use the time control (+) to advance the time until the sun disappears below the horizon.   What time is it?_____ What planets are in the sky just after sunset? _____

   (e) _____

7. Advance the time hour by hour. What happens to the position of the planets throughout the night?

   (f) _____

8. Using the time control advance the time and date to your next birthday at 12:00 noon. What zodiac constellation is closest to the left of the sun? (g) _____

9. Reset the time to the current time and the date to the current date. Use the View > Find > Star to locate Polaris (the North Star). Right click on Polaris to determine its Declination (h) _____. It is very close to 90d (degrees).

10. There are a set of picture buttons below the top menu. They are shown here:
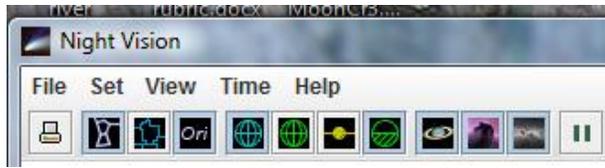
print, constellations, constellation boundaries, constellation names, celestial grid, altitude/azimuth grid, ecliptic, horizon, Planets / Sun / Moon, Deep Sky Objects, Milky Way

Beginning with the constellations button, toggle each of these buttons and then answer the following questions:

What is the difference between constellations lines and constellation borders?

 (i) _____

What is the celestial grid? (j) _____

What is the ecliptic? (k)_____

What is the Milky Way? (l)_____

11. Turn off all of the features except the Planets / Sun / Moon, the ecliptic and the horizon. Using the scroll bar at the bottom of the window center "S" or south in the middle. (Alt = 90, Az = 180) Beginning at sunrise (m)_____(time) and ending at sunset (n) _____(time) progress the time hour by hour. Describe the motion of the sun. (o)

    What is the sun's altitude at 12:00 noon?_____

12. Find the moon. Right click for more information and describe the phase of the moon. (p)_____

13. When (what date) will the moon be full again? (q) _____

14. What is the altitude of the moon when the date is set to the next full moon and the time is set to midnight? _____ Where is the sun? _____

15. Now move backward in time by about two weeks until the moon is a "New Moon". View the "New Moon" at noon. Describe its position. (r)

16. Find the star Sirius and the star Betelgeuse. With the constellation guides turned on - determine the constellation that holds each of these stars. (s) _____

    _____

17. Reset the display to look at tonight's sky beginning at 10pm with South at the bottom of the screen. Set the time rate to update the display every second at a time advance of 10080 (one minute = one week). Watch the animation. What is happening to the sun?(t)