NAME: _____

PRELAB FOR GENERAL OBSERVING

Use your Audobon Guide and/or a general astronomy textbook to answer the following questions:

1. What is a galaxy?

2. What is a star cluster?

3. What is a nebula?

4. How are these three types of objects different?

GENERAL OBSERVING

What will you learn in this Lab?

The night sky is full of a wide variety of objects: planets, moons, stars, comets, nebulae, galaxies, etc… Tonight you will use telescopes and binoculars to look at a variety of objects, some not visible with the naked eye. You will also use your field guide to learn more about the observed objects.

What do I need to bring to the Class with me to do this Lab?

For this lab you will need:

- A copy of this lab script
- A pencil
- Audubon Sky Guide
- SC sky maps (both of them)
- Star wheel
- Red Flashlight

Introduction

At this point you have been introduced to the layout of the night sky and how it moves. In addition you have been shown how astronomers find things in the sky using a variety of different coordinate systems depending on the job at hand. The night sky contains many beautiful objects that you have been learning about in the lecture course. This exercise will allow you to observe various celestial objects and write a description of the object, based on the information you can find on your star charts and in your field guide.

Procedure

I. The binoculars and telescopes will be pointed at various (8 – 10) celestial objects. Your TA will give you a common catalog or some other familiar designation for each object. You will sketch all that you see through the binoculars or telescope eyepiece. Record the instrument type (telescope or binoculars) and, if applicable, the eyepiece size. When making your observations, be certain to note the following:
   a. Color
   b. Fuzzy or sharp
   c. Bright or dim
   d. Single object or multiple objects

II. You will then turn to your field guide and star charts to learn about the observed objects. You must be certain to find the information listed below, either from the guide book or star charts:
   a. Object name – catalog designation and any other common names that the object is known by
   b. Object type – be specific. If a nebulae, say “emission nebulae” or “reflection nebulae”. If a star, list “binary”, “red giant”, etc…
   c. Definition of the determined object type.
   d. Right Ascension and declination
   e. Constellation
   f. At what time today would the object be at its highest point in the sky?
   g. At what time of year (month, day) would the object be visible on the meridian at 8:00 pm?

(Note: When asked if an object appears “point-like”, this simply refers to the object being clear, crisp, sharp, or “in-focus”. “Fuzzy” is simply the opposite – like when an object has an extended halo around it or appears “out-of-focus” because of surrounding gas or dust.)

Foul Weather Alternative

In the event that the weather is uncooperative enough to not allow a somewhat clear view of the sky tonight, the TA will give you the list of objects that you would have observed had the sky been clear. Using that information, you will be able to complete the exercise as described above, except there will be no sketches of your observations.

Conclusion:

Observation Sheet

Information

a. Object Name: _____
b. Object Type: _____
c. Definition of Object Type: _____
_____

d. Right Ascension: _____
Declination: _____
e. Constellation: _____
f. Time today object will be at its highest point in the sky: _____
g. Date when object would be visible on the meridian at 8pm: _____

Observations

a. Brightness (bright, moderate, dim)_____
b. "Point-like" or extended (fuzzy)?_____
c. Single object or multiple objects?_____
d. Color_____

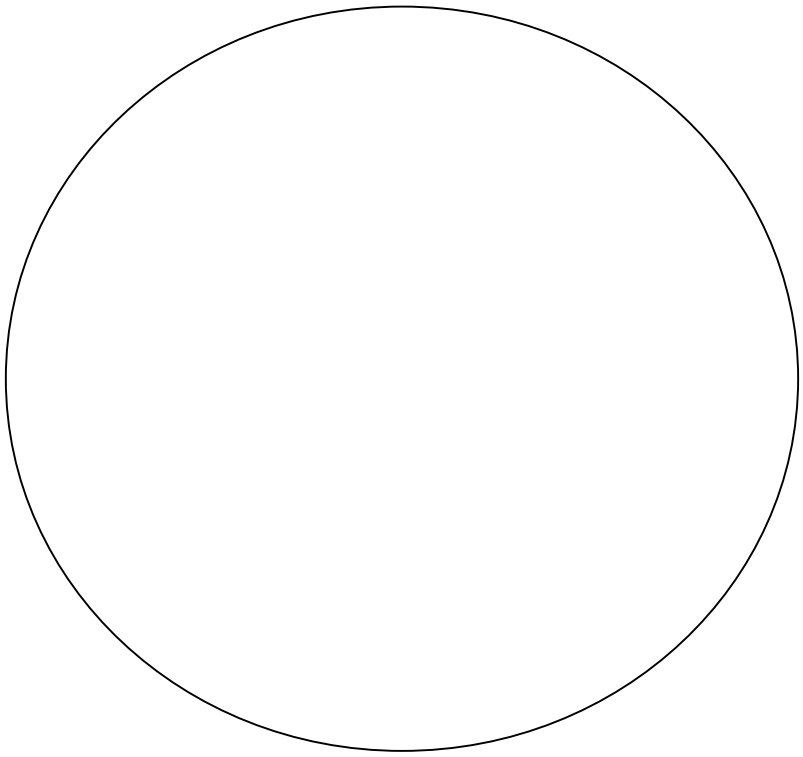
Drawing of object as seen through telescope or binoculars

Instrument type:

_____

Eyepiece size:

_____ mm



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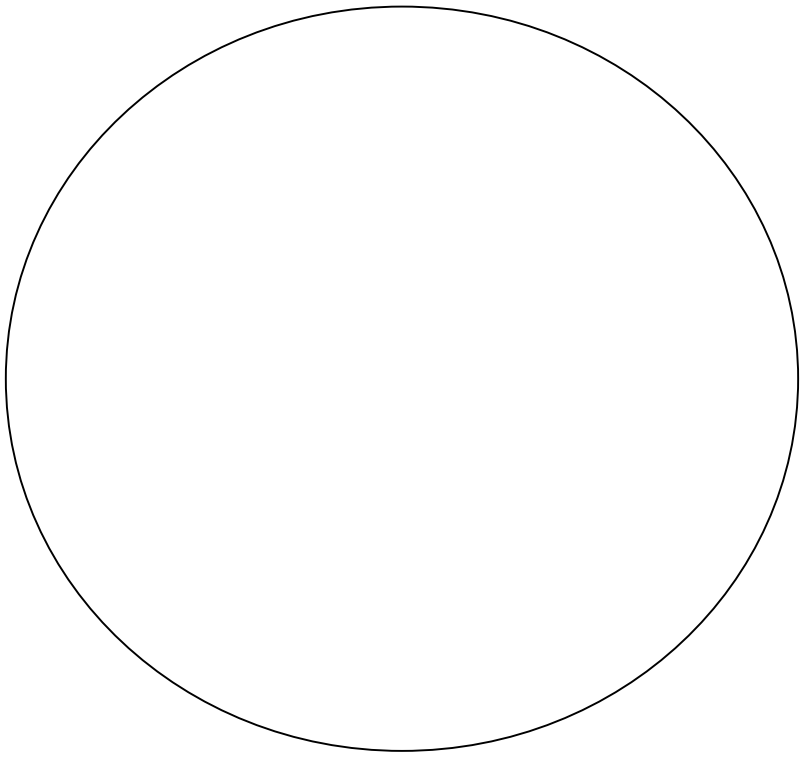

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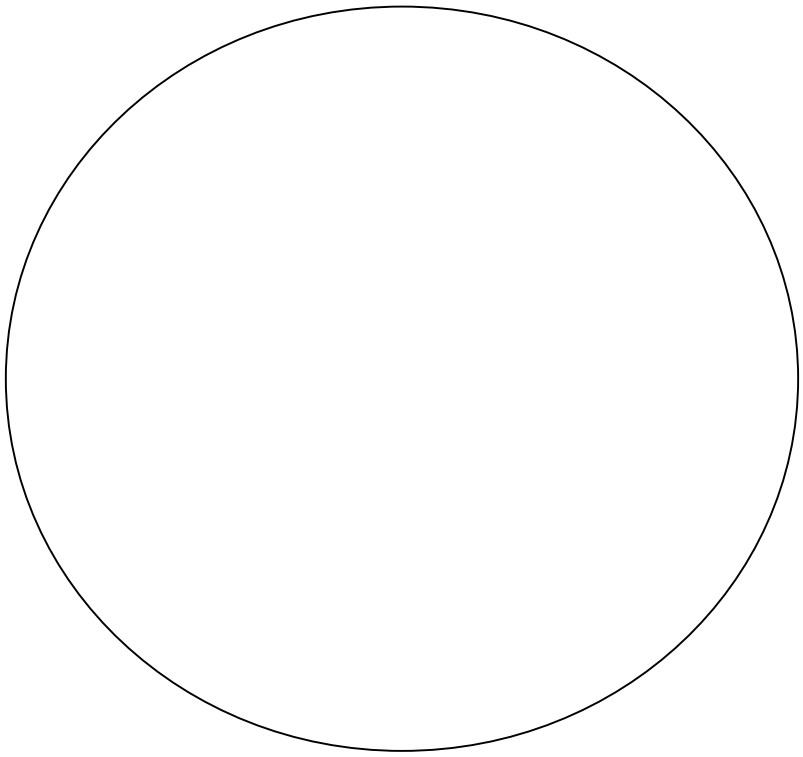

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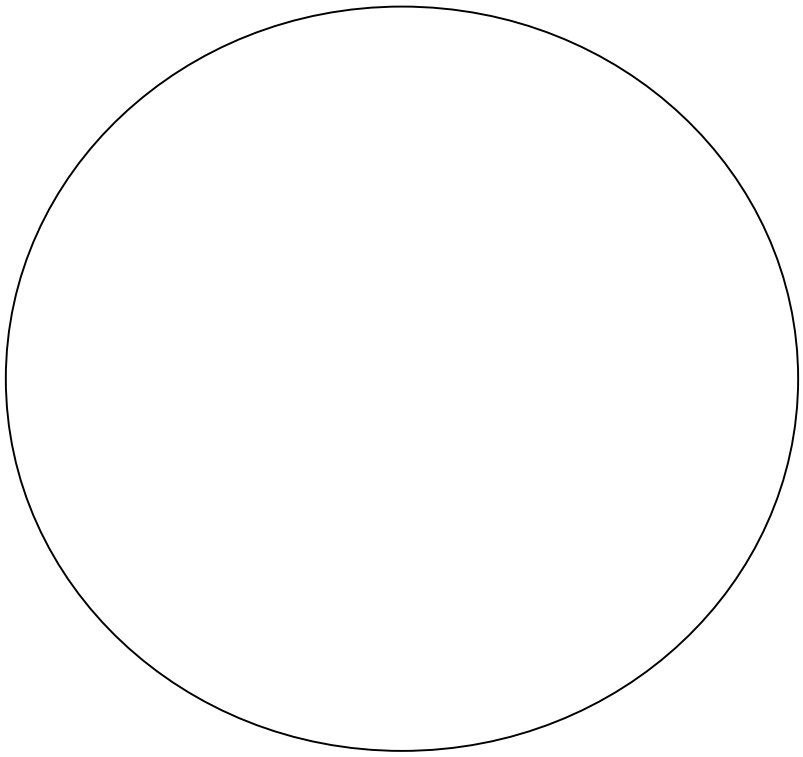

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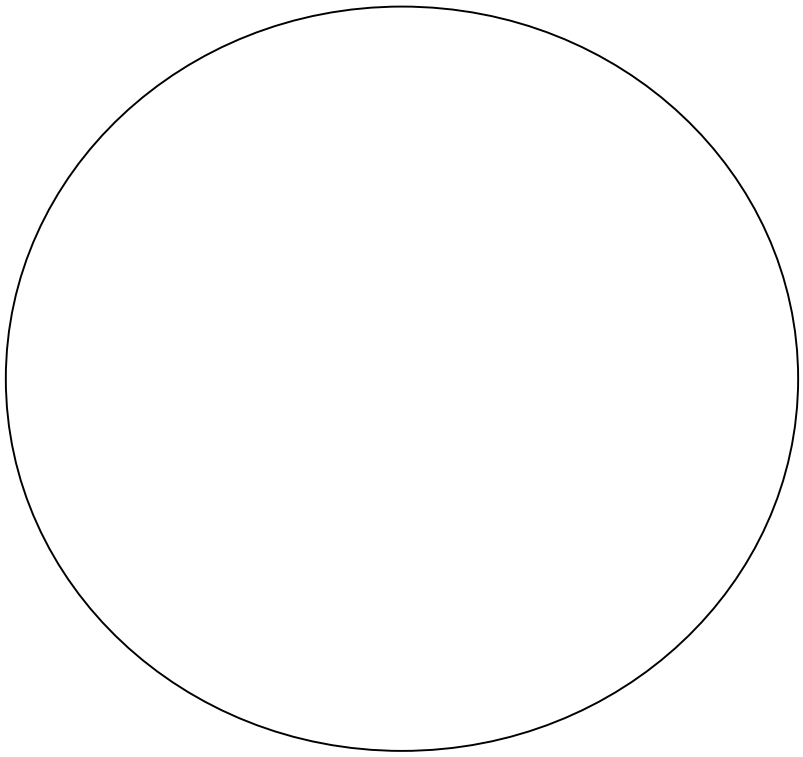

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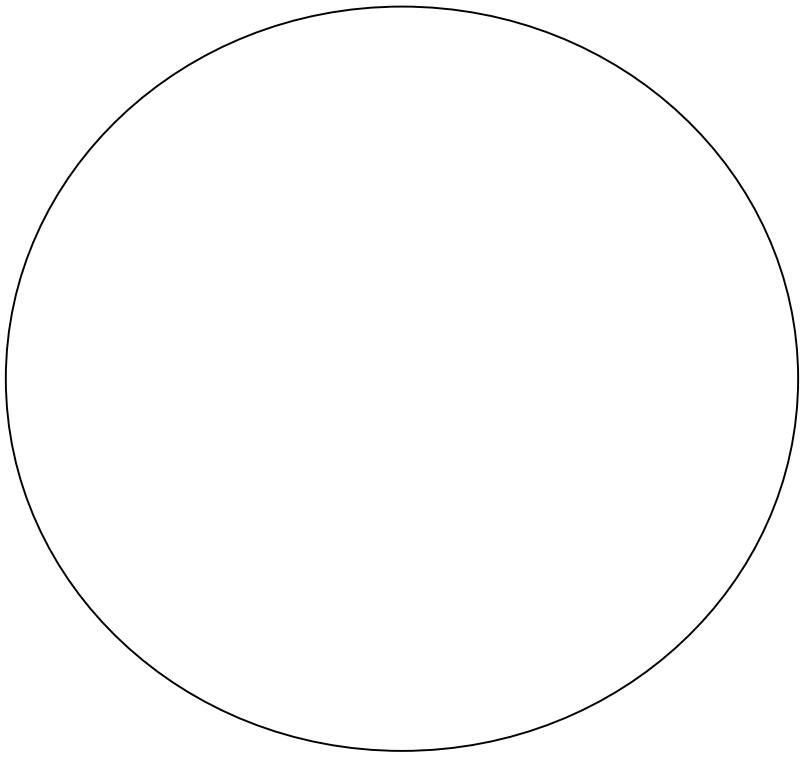

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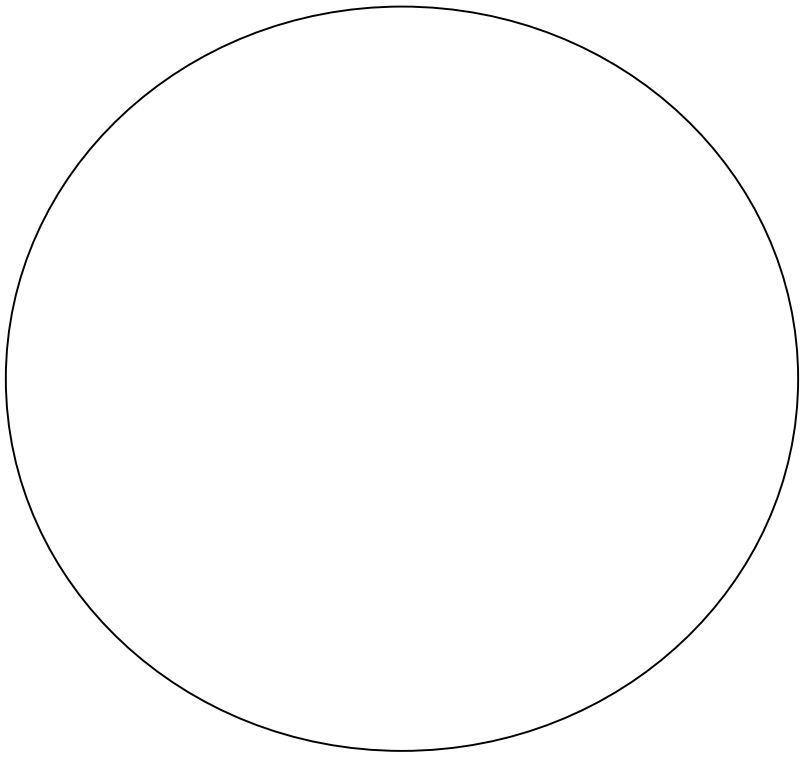

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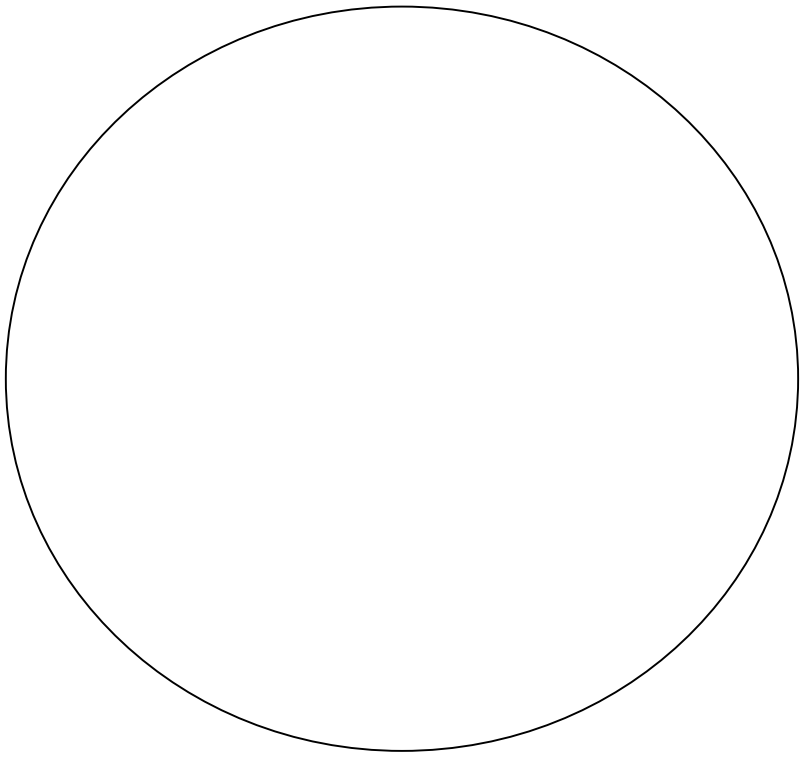

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