

Name \_\_\_\_\_ Netid: \_\_\_\_\_

## Astronomy 100: Night Time Observations

**Purpose:** (1) To observe the broad features of the night sky and identify bright stars and constellations; and (2) to observe in more detail specific night sky objects: the moon, planets, star clusters, nebulae and galaxies, with a telescope.

### What to do at the observatory:

There will be four stations, each tended by an instructor:

- (1) a naked-eye tour of the sky (outside the building),
- (2) 4" Telescope I (outside the building),
- (3) 4" Telescope II (outside the building),
- (4) 12" Telescope (inside the building).

You should visit all of the stations, but you may do so in any order. At each station, the instructor will review information about the object that you will be observing, and will assist you in observing the object with a telescope or with your eyes. Read the questions below before you start observing and you may answer them as you go through the session.

**Rule:** *You may ask the instructor for assistance with answering questions or discuss the questions with your classmates, but you must write your own responses in your own words.*

### Answer the first question before you start.

1. (a) What is the date and time of your observations?

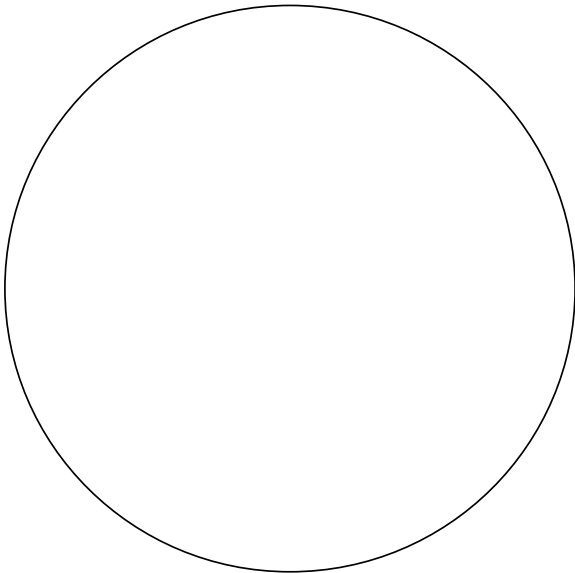
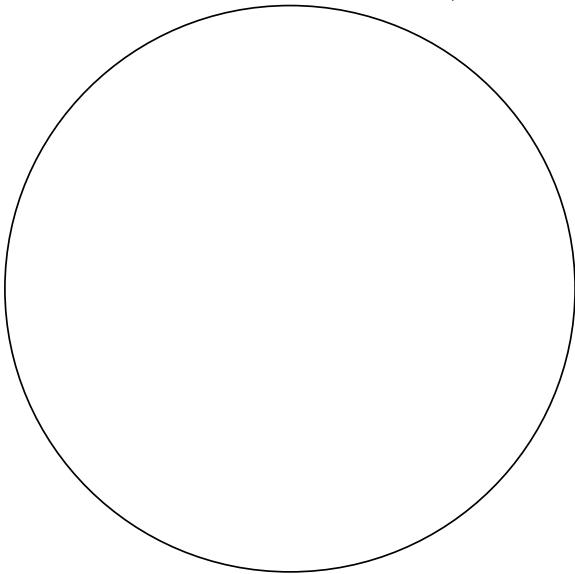
(b) What are the sky conditions (e.g., clear, partly cloudy)?

## Naked Eye Tour of the Sky

2. Give the name of one constellation that you heard about, and sketch it. If the stars appear to be the same brightness, say so. Otherwise, rank them in brightness, starting with 1=brightest.
  
  
  
  
  
  
  
  
  
  
  
3. Give the name of one asterism that you heard and sketch it. If the stars appear to be the same brightness, say so. Otherwise, rank them in brightness, starting with 1=brightest.
  
  
  
  
  
  
  
  
  
  
  
4. Identify the star Polaris.
  - (a) Is it the brightest star in the sky?
  
  - (b) What is a method for finding Polaris?
  
  
  - (c) What makes Polaris an important star?
  
  
  
  
  
  
  
  
  
  
  
5. What planets (if any) did you see in the sky? What color are they? How does a planet appear different from a star?

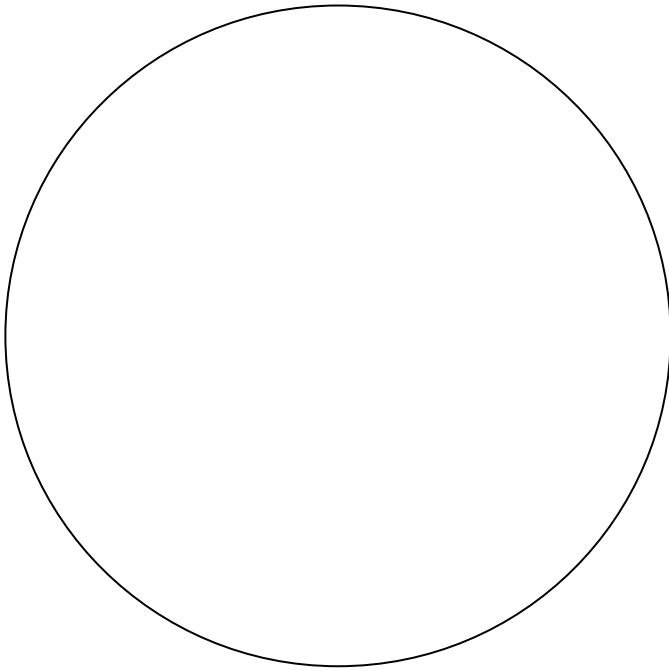
## Observations with the 4" Telescopes

6. Are the 4" telescopes reflecting telescopes or refracting telescopes? Do they use mirror or lens to collect light?
7. What is the diameter of the mirror or lens of these two telescopes?
8. What objects did you see through these two 4" telescopes? Sketch the objects and label their features in the circles below. Give the names and a brief description (e.g., color, shape, surface features, etc.) of these objects.



## Observations with the 12" Telescopes

9. Is the 12" telescope a reflecting telescope or refracting telescope? Does it use mirror or lens to collect light?
10. What is the diameter of the mirror or lens of this telescope?
11. What object did you see through the 12" telescope? Sketch the object and label its features in the circles below. Give the name and a brief description (e.g., color, shape, surface features, etc.) of this object.



**Get the instructor's autograph before you leave the Observatory!**