

# ***Isabel Williamson Lunar Observing Forms***

To qualify for the Isabel Williamson Certificate all R (required observations) must be completed by entering the date and time for each observation. The C (challenge observations) are optional as well as the rest of the fields on these observing forms, such as drawings.

## **PART 1 – Introducing the Moon**

### **A – Lunar Phases and Orbital Motion**

R 1 – Enter in the notes section the date and time for each phase observed.

R 2 – Date \_\_\_\_\_ Time \_\_\_\_\_

R 3 – Date \_\_\_\_\_ Time \_\_\_\_\_

        Date \_\_\_\_\_ Time \_\_\_\_\_

Notes

---

---

---

---

### **B – Major Basins (Maria) & Pickering Unaided Eye Scale**

R 1 – Date \_\_\_\_\_ Time \_\_\_\_\_

C 1 – Date \_\_\_\_\_ Time \_\_\_\_\_

C 2 – Date \_\_\_\_\_ Time \_\_\_\_\_

Notes

---

---

---

---

### **C – Ray System Extent**

R 1 – Date \_\_\_\_\_ Time \_\_\_\_\_

C 1 – Date \_\_\_\_\_ Time \_\_\_\_\_

Notes

---

---

---

---

D – Crescent Moon Less Than 24 Hours From New

C 1 – Date	Age in Hours	Location
_____	_____	_____

Notes

---

---

---

---

E – Binocular & Unaided Eye Libration

R 1 – Date _____	Time _____
C 1 – Date _____	Time _____

Notes

---

---

---

---

## PART 2 – MAIN OBSERVING LIST

As in part one, only the R (required observations) and the date and time they were observed need to be completed to obtain the Isabel Williamson Lunar Observing Certificate.

The numbers for ‘Seeing’ and ‘Transparency’ refer to the condition of the sky at the time the observation was made. ‘Seeing’ refers to the steadiness of the atmosphere and ‘Transparency’ to the clarity. In both cases, it is the Antoniadi Scale where 1 is best, 2 is better-than-average, 3 is average, 4 is below average, and 5 is poor.

The telescope and magnification fields provide a space to record the instrument(s) and the power used for each observation. The magnification, or power, is based on the focal length of the telescope divided by the focal length of the eyepiece used.

### Objective 1a: Eastern Mare Crisium

Required Observations (Eastern Mare Crisium)	Date	Time
R1		

Challenge Observations (Eastern Mare Crisium)	Date	Time
C1		

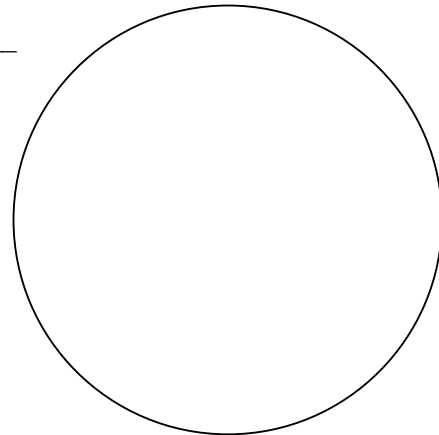
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 1b: Western Mare Crisium

Required Observations (Western Mare Crisium)	Date	Time
R1		
R2		

Challenge Observations (Western Mare Crisium)	Date	Time
C1		

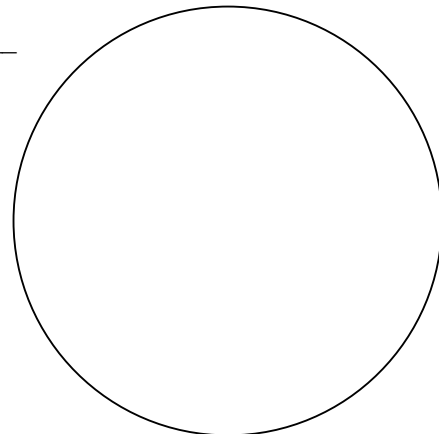
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

## Objective 2: Eastern Basin Group

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

### Notes

\_\_\_\_\_

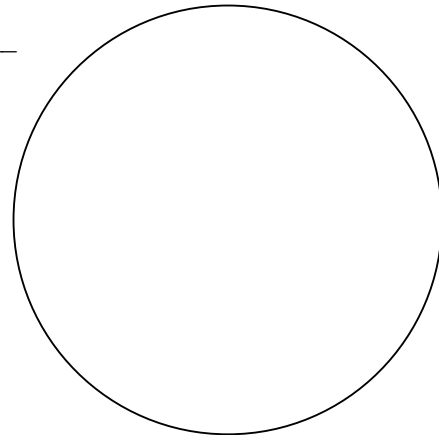
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



## Objective 3: Mare Anguis

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

### Notes

\_\_\_\_\_

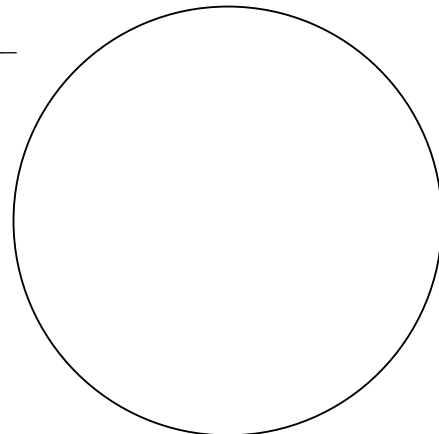
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



### Objective 4: Vendelinus

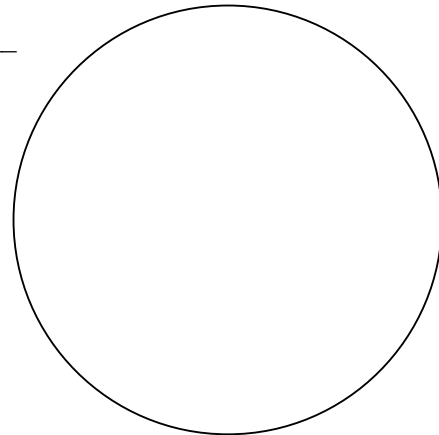
Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 5: Langrenus

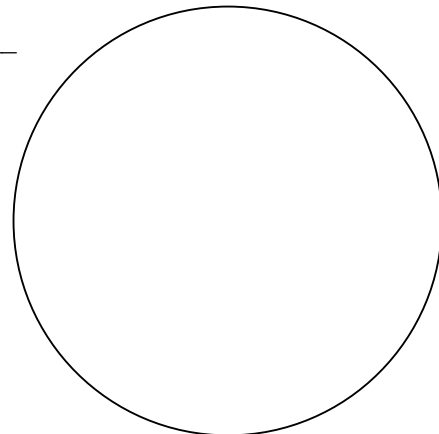
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 6: Petavius

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

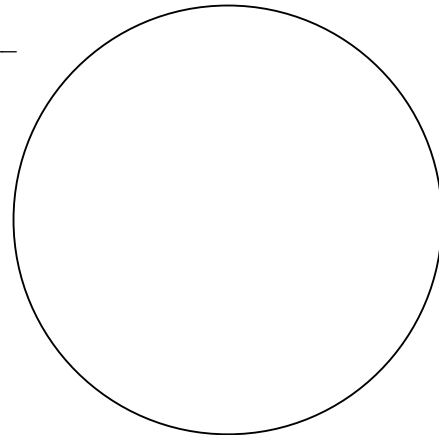
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 7: Furnerius & Fraunhofer

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

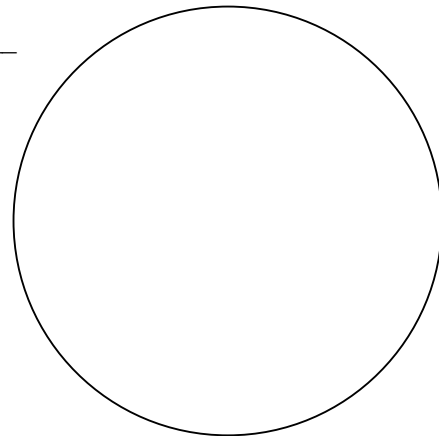
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 8: Geminus & Lacus Spei

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

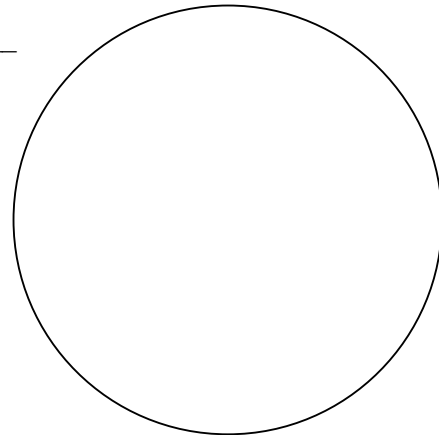
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 9: Endymion & Mare Humboldtianum

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

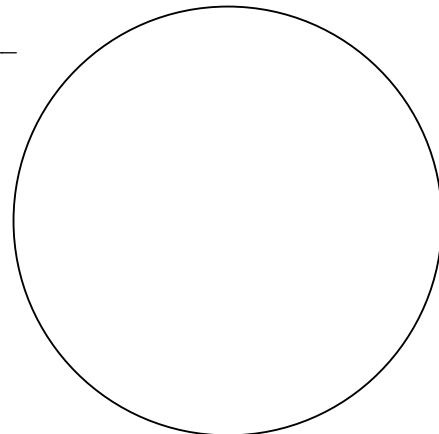
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 10: Snellius & Vallis Snellius

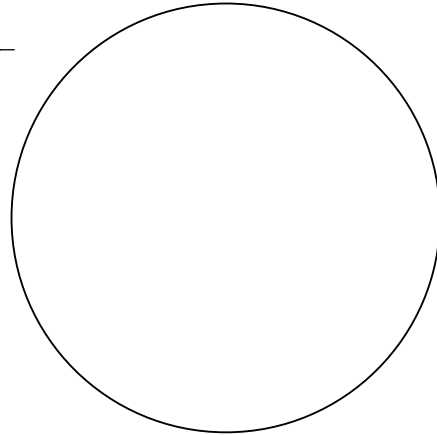
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:        1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 11: Cleomedes & Macrobius

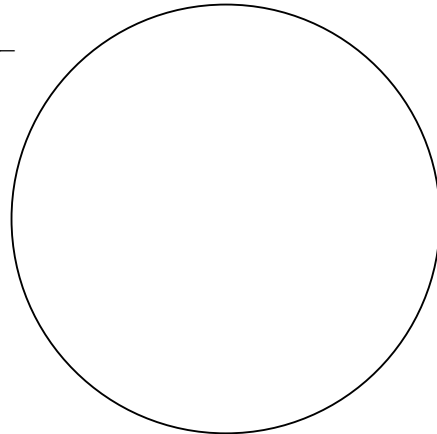
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:        1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_





### Objective 12: Stevinus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

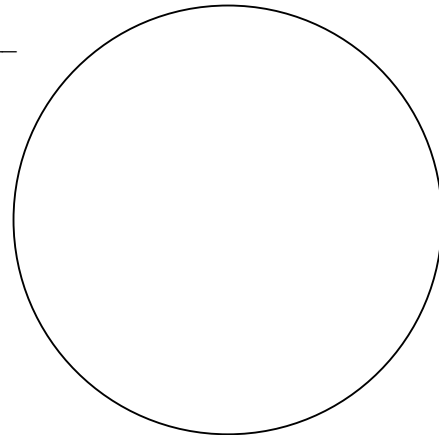
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 13a: Eastern Mare Fecunditatis

Required Observations (Eastern Mare Fecunditatis)	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes

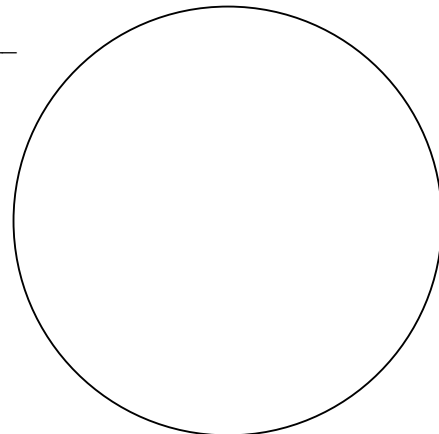
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 13b: Central Mare Fecunditatis

Required Observations (Central Mare Fecunditatis)	Date	Time
R1		
R2		

Challenge Observations (Central Mare Fecunditatis)	Date	Time
C1		

Notes

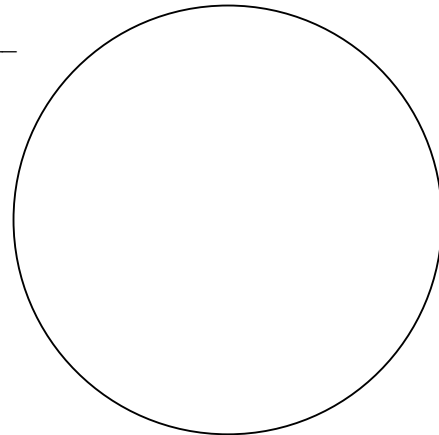
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 13c: Western Mare Fecunditatis

Required Observations (Western Mare Fecunditatis)	Date	Time
R1		
R2		

Challenge Observations (Western Mare Fecunditatis)	Date	Time
C1		
C2		

Notes

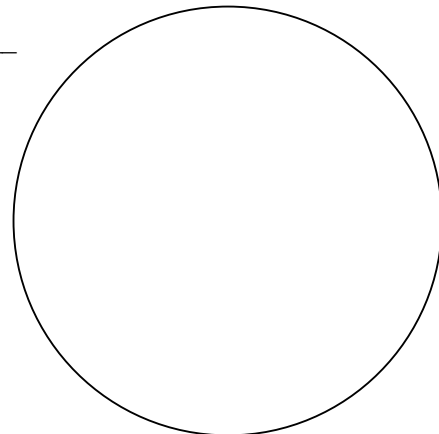
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 14: Vallis Rheita**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

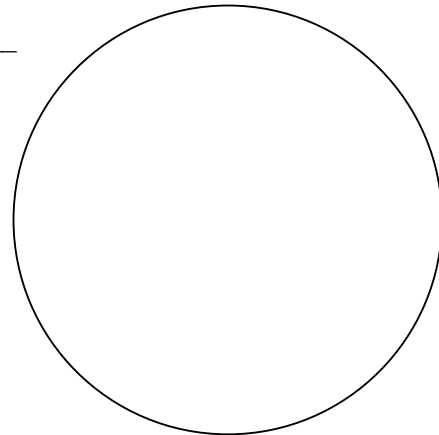
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 15: Promontoria Lavinium & Olivium**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

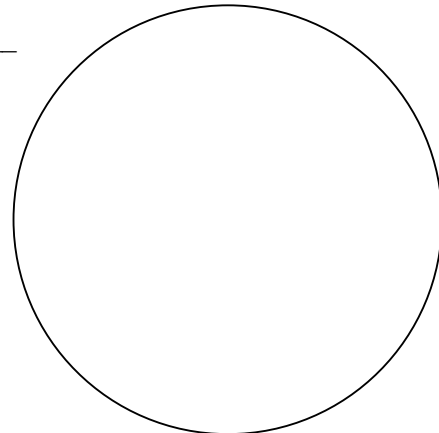
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 16: Franklin & Cepheus

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

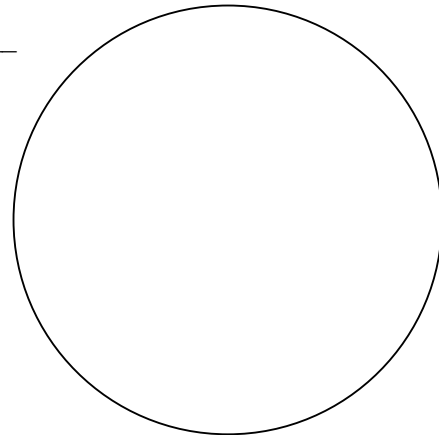
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:         1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 17: Steinheil & Watt

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

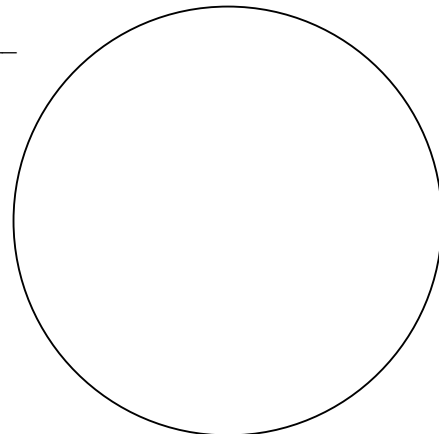
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:         1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 18: Palus Somni & Proclus**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

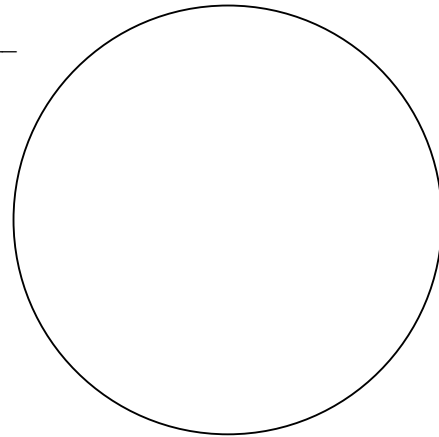
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 19: Newcomb**

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes

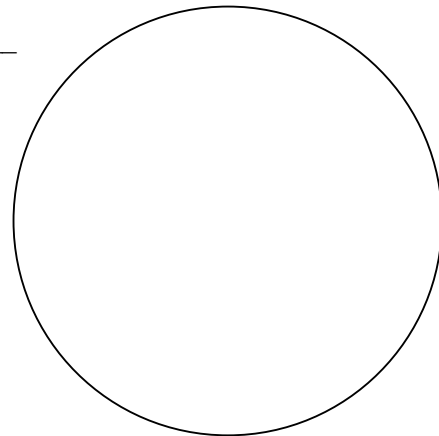
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 20: Metius & Fabricius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

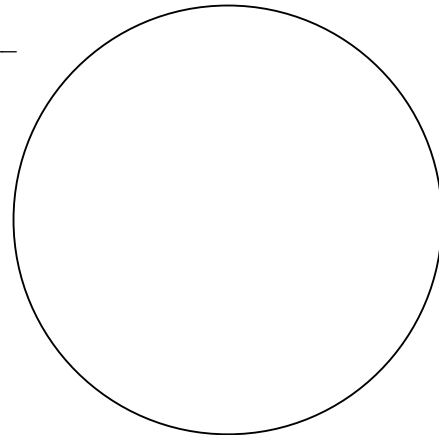
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 21: Sinus Concordiae

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

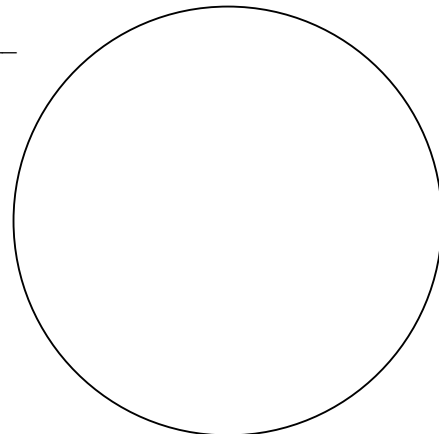
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

## Objective 22: Janssen

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

### Notes

---

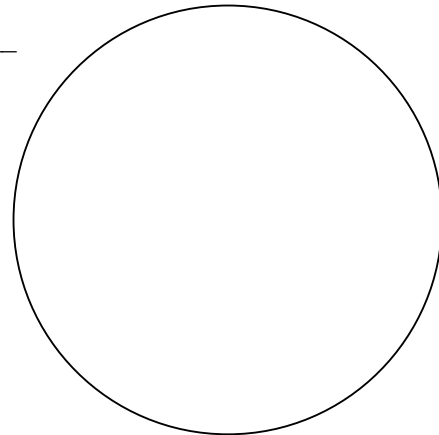
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



## Objective 23: Montes Pyrenaeus

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

### Notes

---

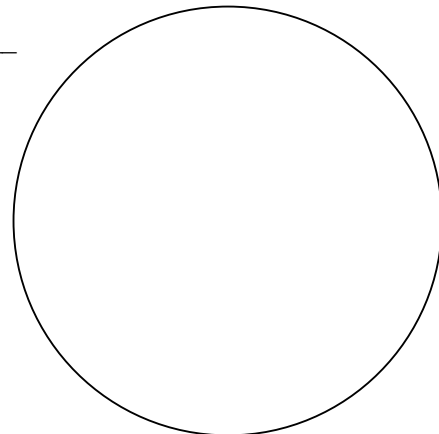
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 24: Atlas & Hercules

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

#### Notes

---

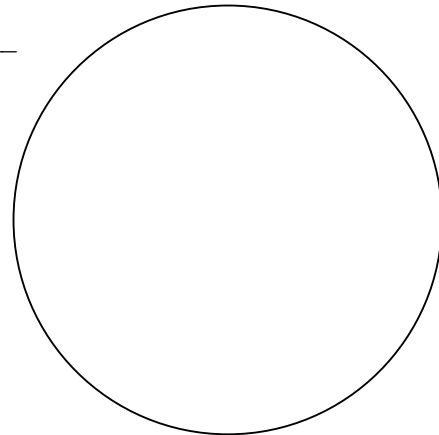
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 25: Mare Nectaris

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

---

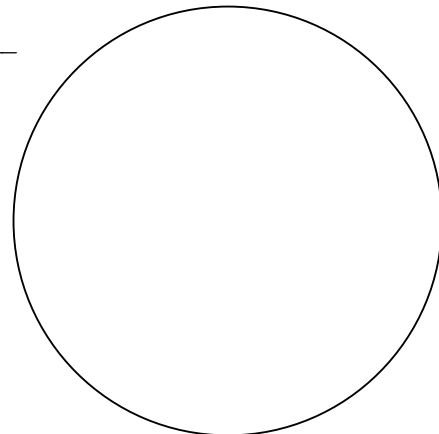
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_





### Objective 26: Rupes Cauchy & Cauchy Domes

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

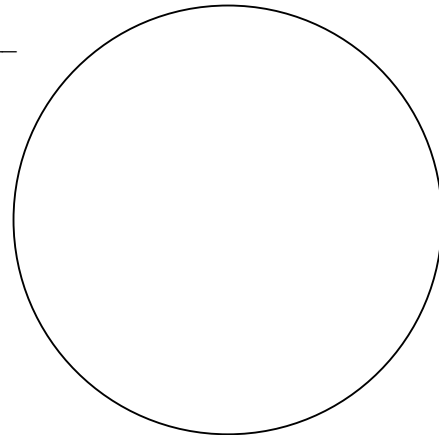
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 27: Sinus Amoris

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

Notes

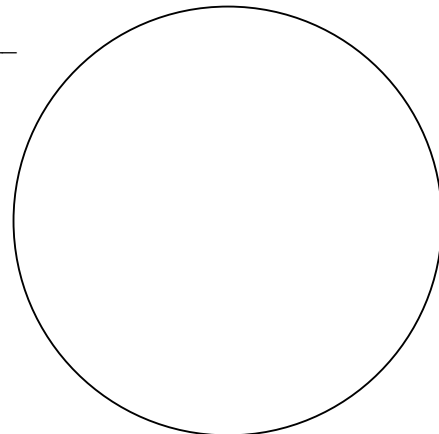
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 28: Capella & Vallis Capella

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

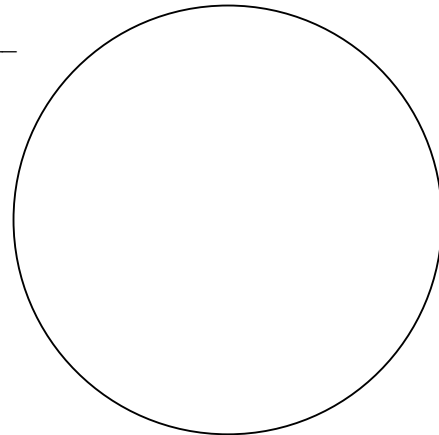
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 29: Fracastorius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

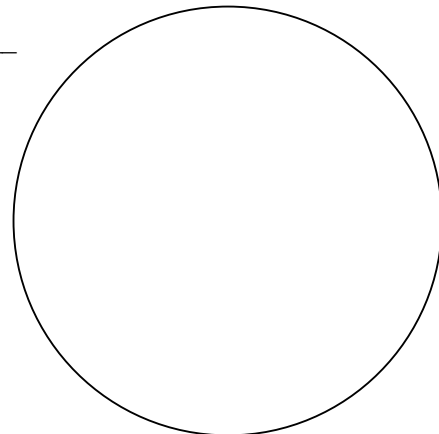
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 30: Hommel

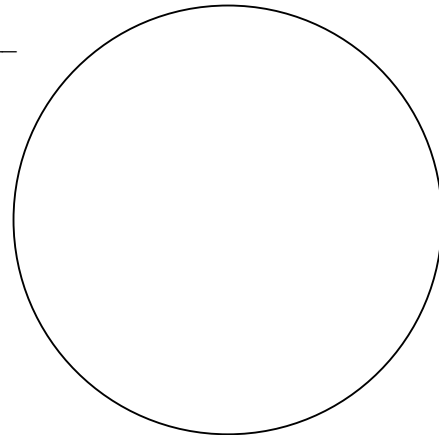
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 31: Piccolomini

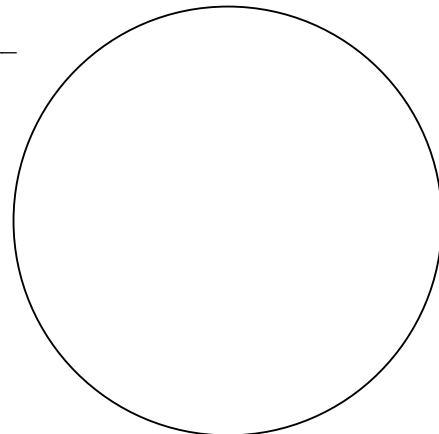
Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 32: Wohler

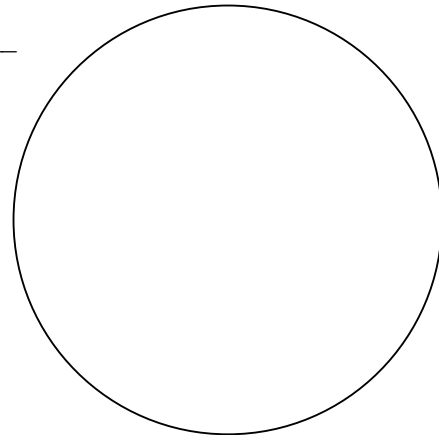
Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 33: Posidonius

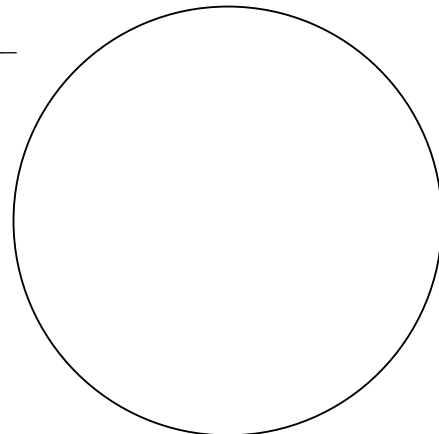
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 34: Dorsa Aldrovandi & Mons Argaeus

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes

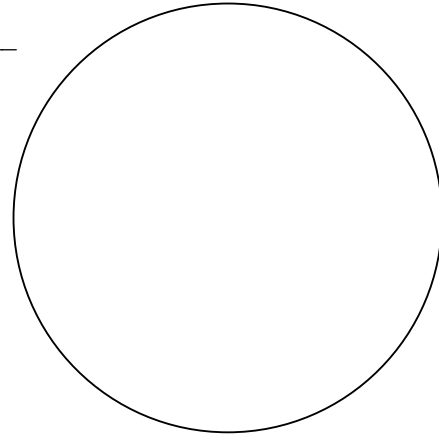
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 35: Jansen

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

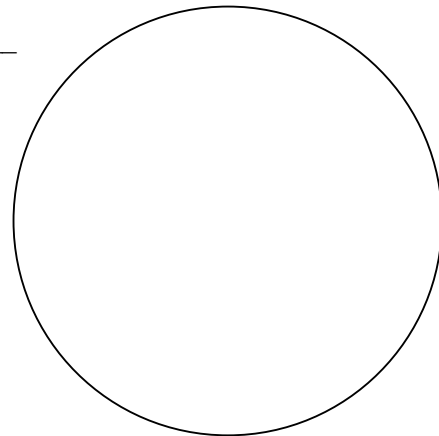
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 36: Lacus Mortis & Burg

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes

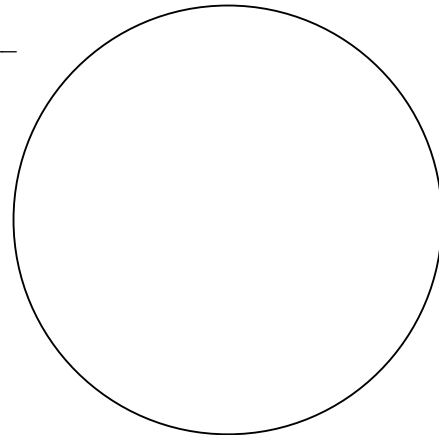
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 37: Theophilus (Sinus Asperitatis & Mare Nectaris Area)

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		

Notes

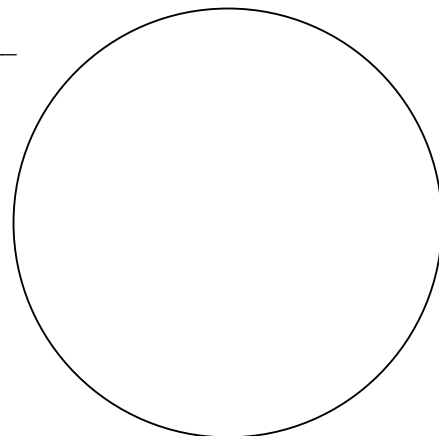
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 38: Cyrillus (Sinus Asperitatis & Mare Nectaris Area)**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

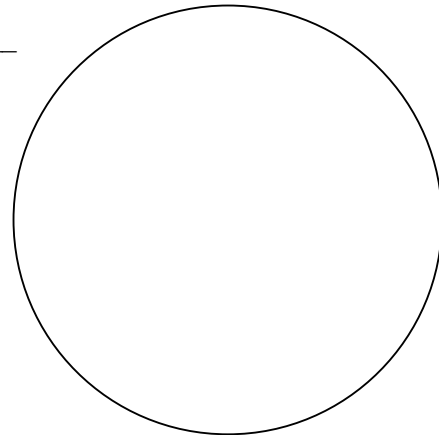
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 39: Catharina (Sinus Asperitatis & Mare Nectaris Area)**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

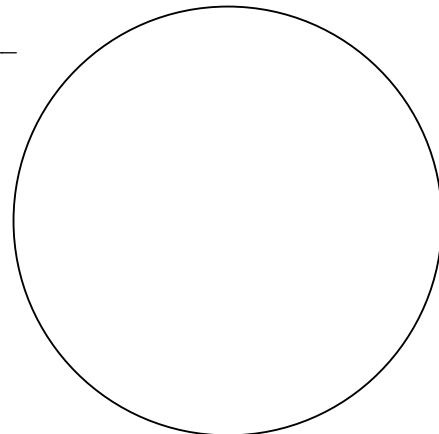
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 40: Rupes Altai

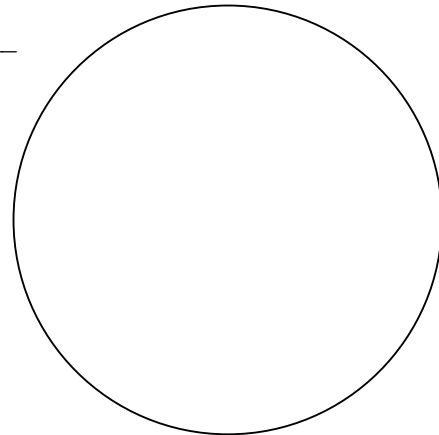
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 41: Mare Serenitatis

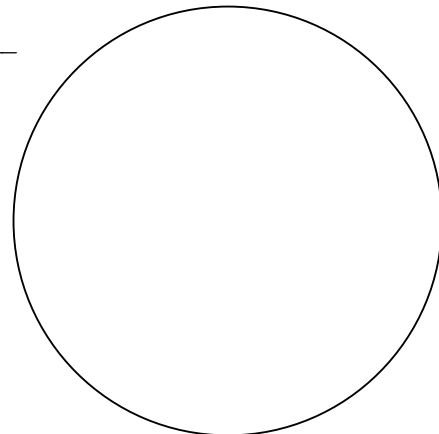
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_





### Objective 42: Sinus Asperitatis

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

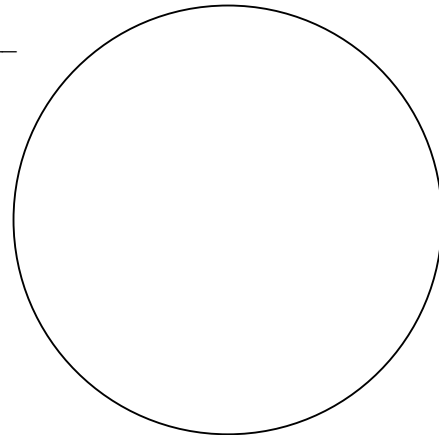
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:         1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 43: Plinius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		
C3		

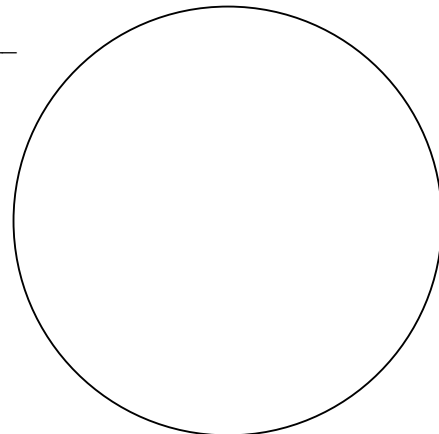
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:         1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 44: Lamont, Arago, & Ross**

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		
C3		
C4		

Notes

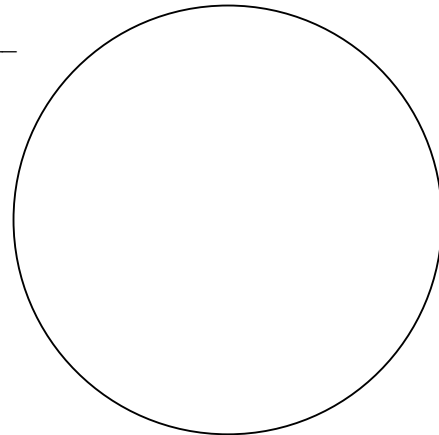
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 45: Moltke & Rimae Hypatia**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

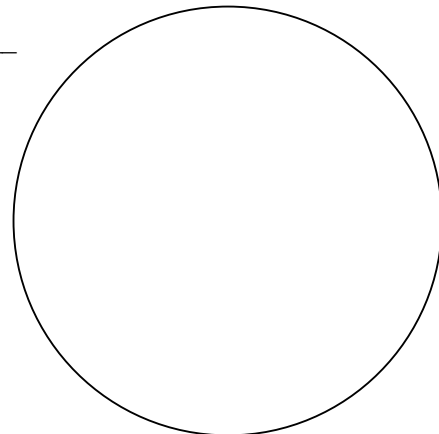
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 46: Zagut, Rabbi Levi, & Lindenau**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

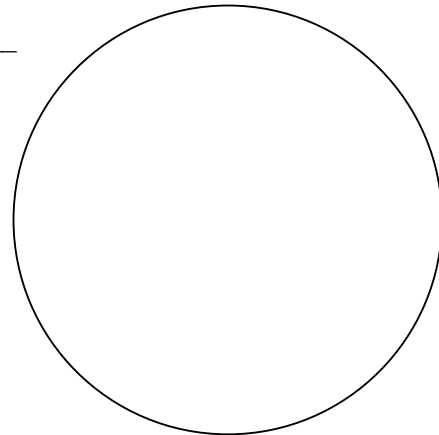
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 47: Delambre**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

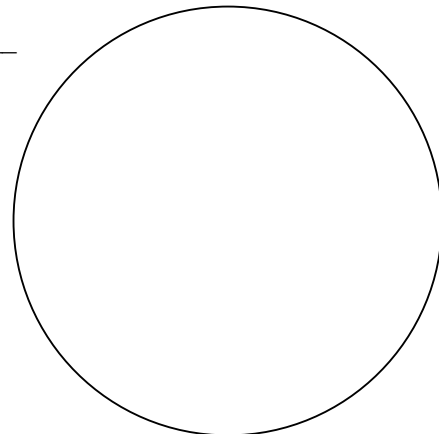
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 48: Aristoteles & Eudoxus**

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		
C2		

Notes

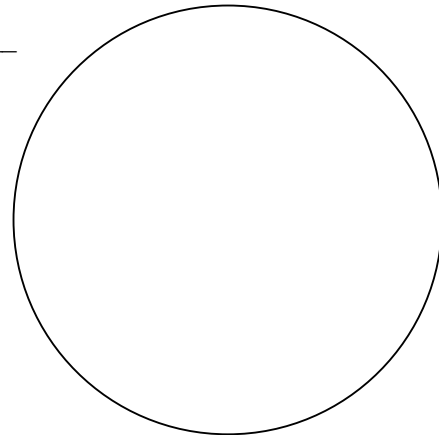
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 49: Sacrobosco & Playfair**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

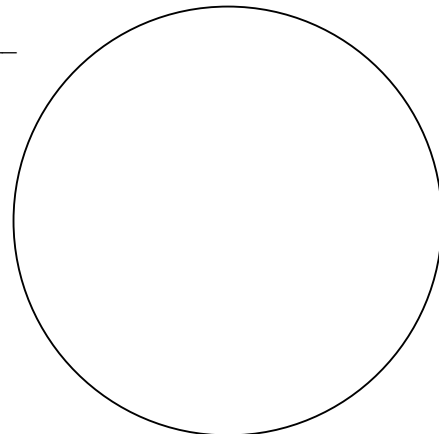
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 50: Maurolycus & Barocius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

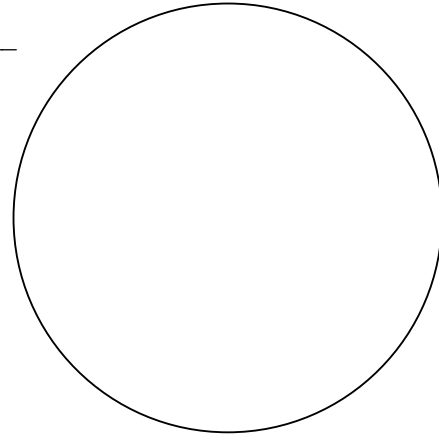
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 51: Gemma Frisius

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

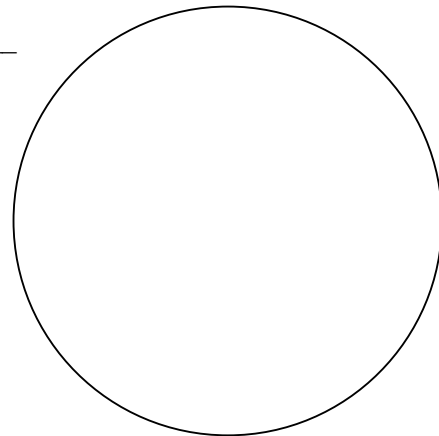
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 52: Montes Haemus & Mare Serenitatis Lacus Group

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

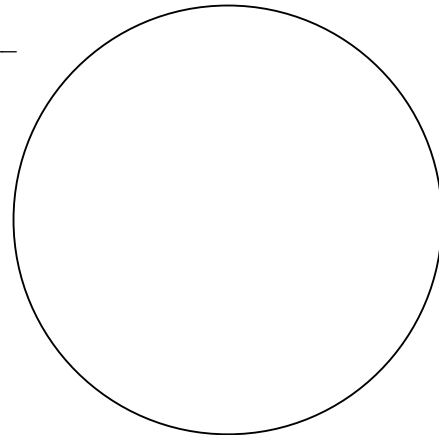
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 53: Rima Ariadaeus

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

Notes

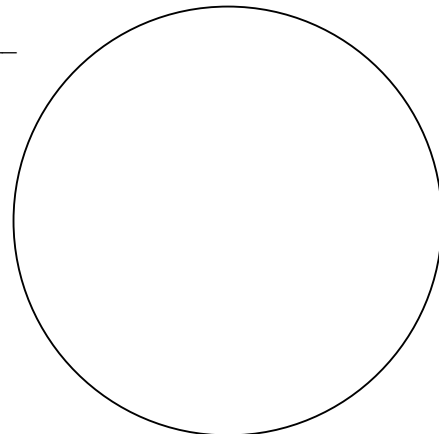
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 54: Abulfeda & Catena Abulfeda**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

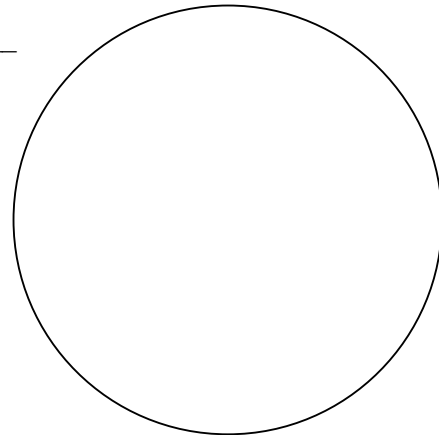
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 55: Abenezra & Azophi**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

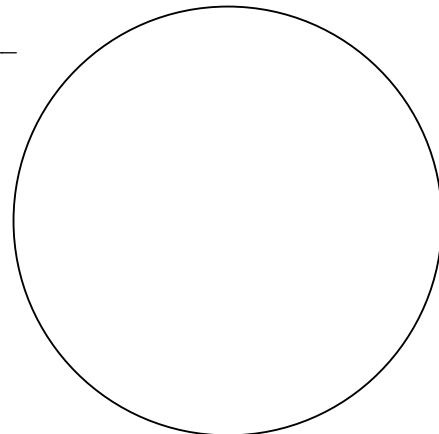
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 56: Dorsum von Cotta & Dorsum Buckland**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

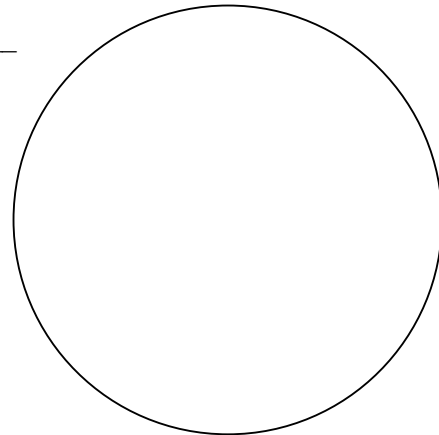
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 57: Linné**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

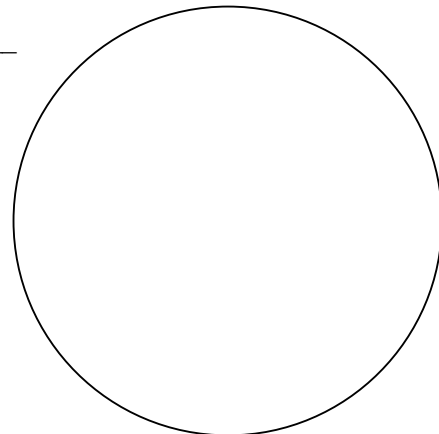
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



**Objective 58: Cuvier**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

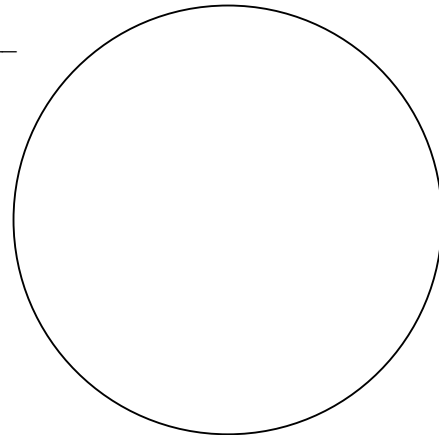
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 59: Manilius**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

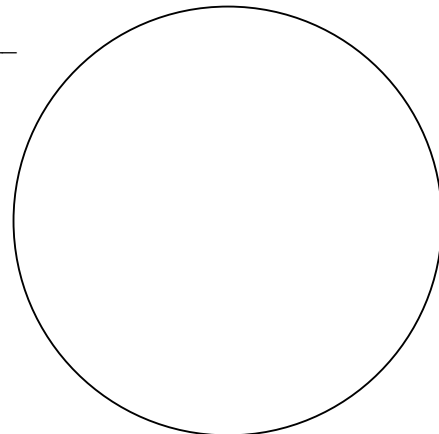
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 60: Montes Caucasus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

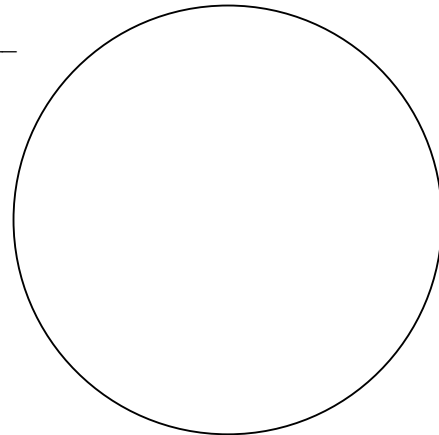
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 61: Rima Hyginus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

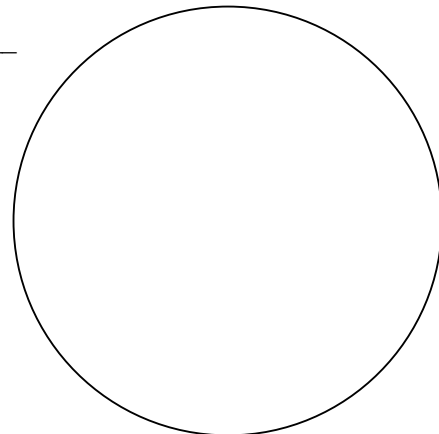
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 62: Stofler & Faraday**

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations (None)	Date	Time

Notes

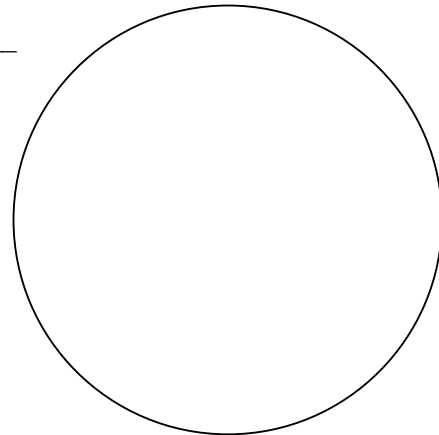
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 63: Airy, Arglander & Vogel**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time

Notes

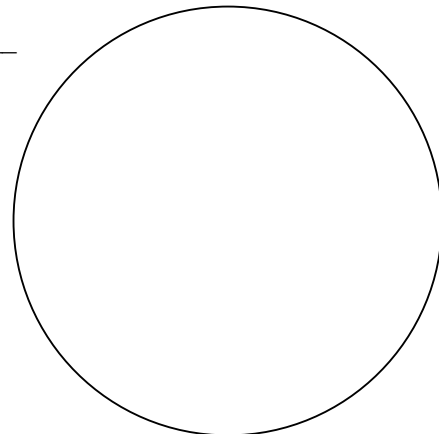
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 64: Rimae Triesnecker

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes

---

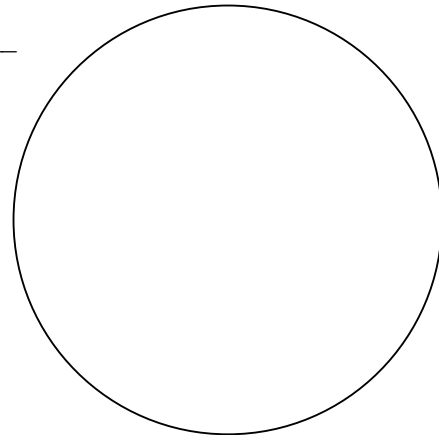
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 65: Hipparchus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

---

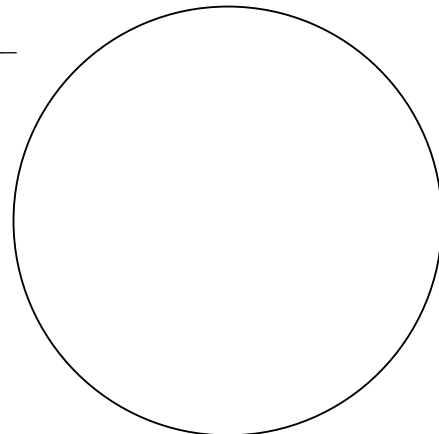
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:           1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



**Objective 66: Albategnius**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

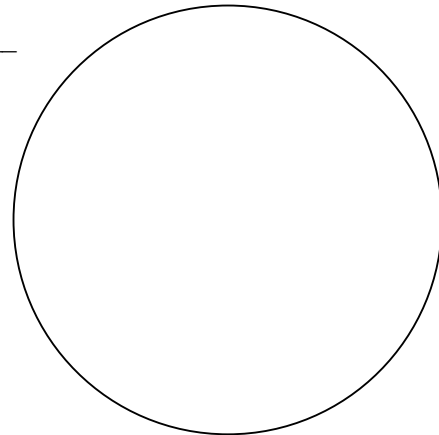
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 67: Werner & Aliacensis**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

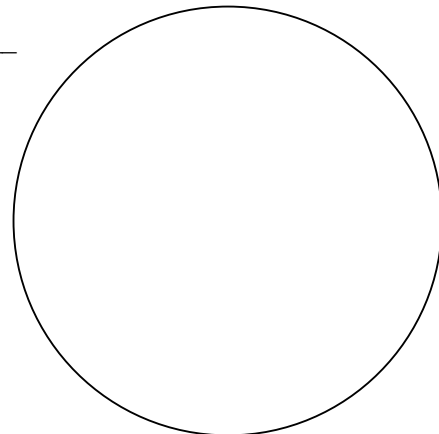
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 68: Montes Alpes & Vallis Alpes**

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes

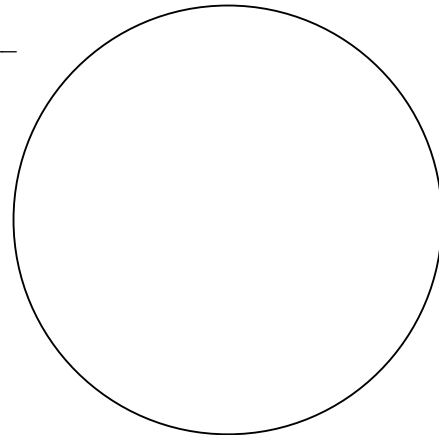
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 69: Aristillus & Autolycus**

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes

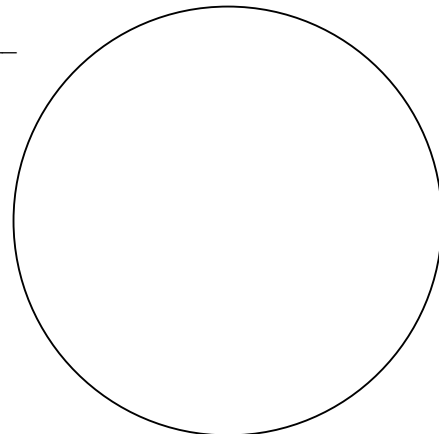
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 70: Montes Apenninus & Apennine Bench**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

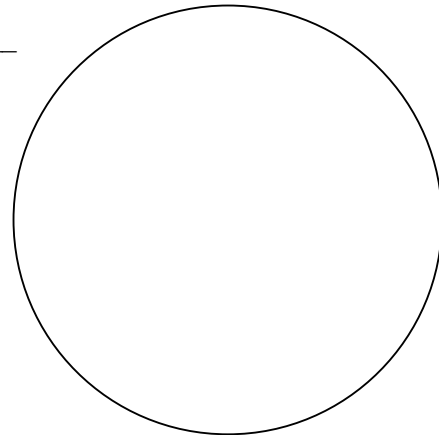
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 71: Walther (Walter before 1979)**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

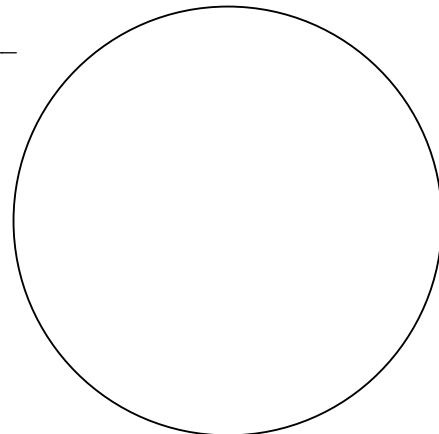
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 72: Huggins, Nasireddin, & Miller**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

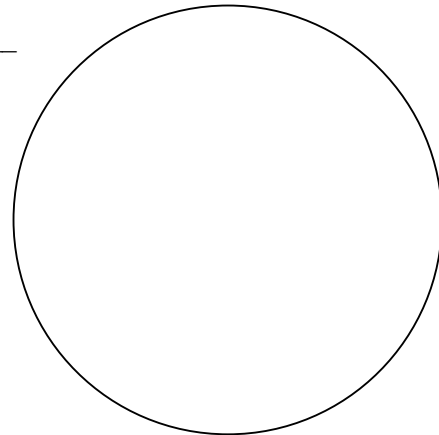
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 73: Regiomontanus**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

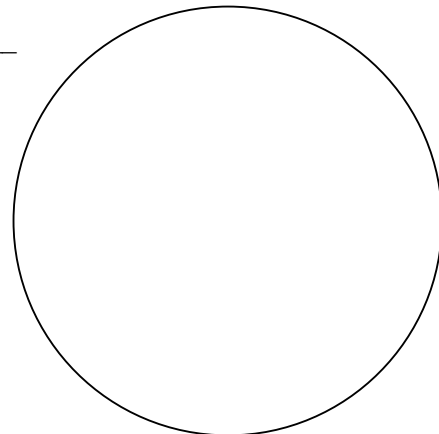
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



### Objective 74: Arzachel

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes

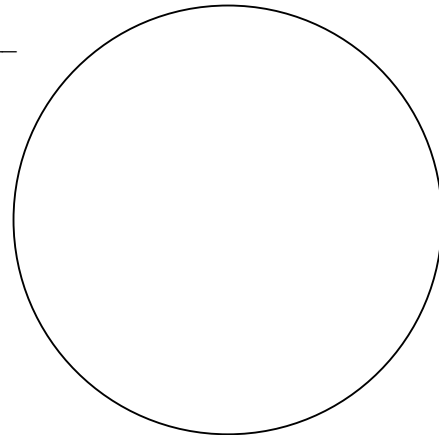
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 75: Ptolemaeus & Alphonsus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

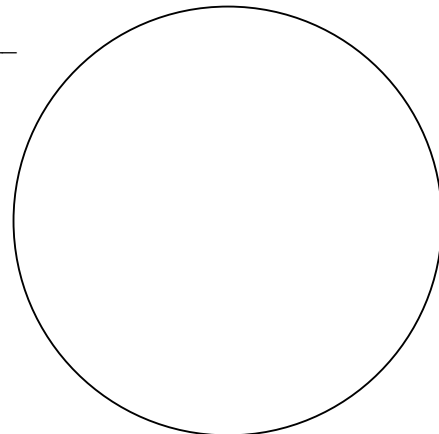
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 76: Goldshmidt**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

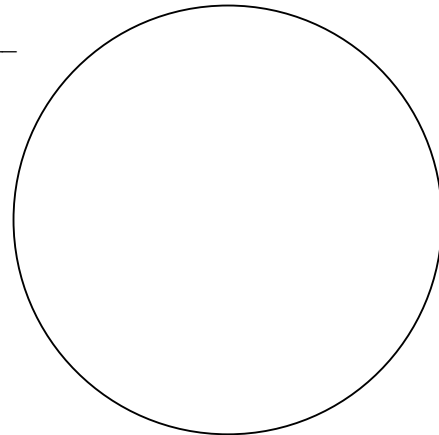
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 77: Montes Spitzbergen & Mons Piton**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

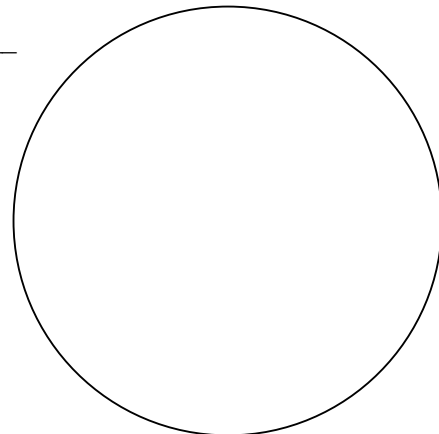
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 78: Archimedes & Montes Archimedes**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

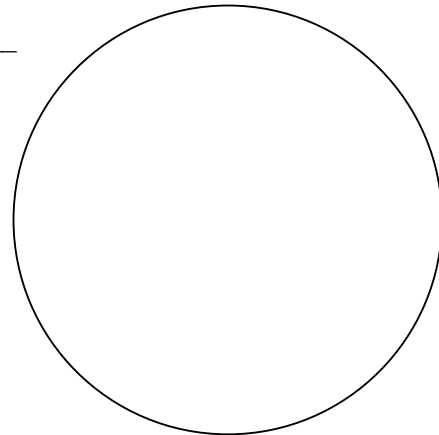
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 79: Deslandres**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

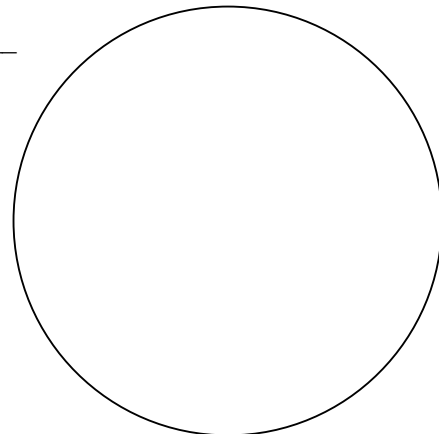
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 80: Moretus & South Polar Region

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

#### Notes

---

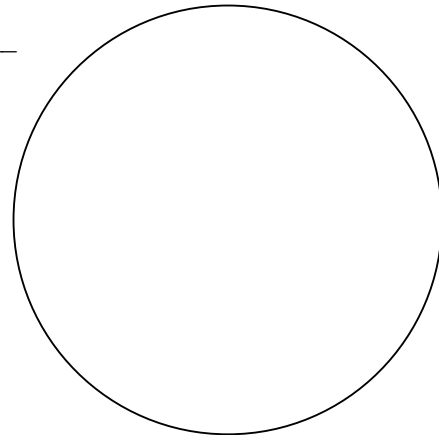
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 81: Maginus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

#### Notes

---

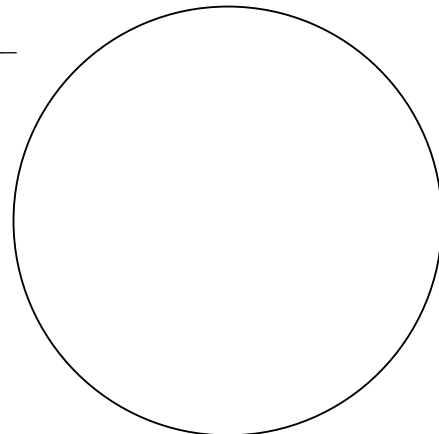
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 82: Davy & Catena Davy

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

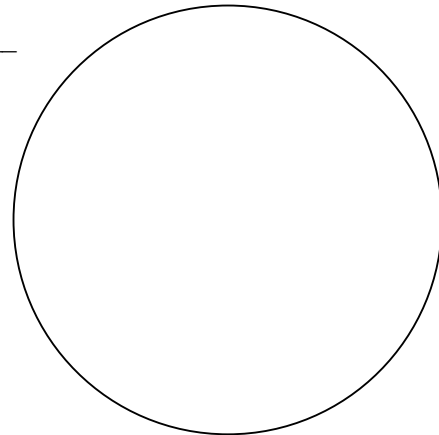
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 83: Rupes Recta

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes

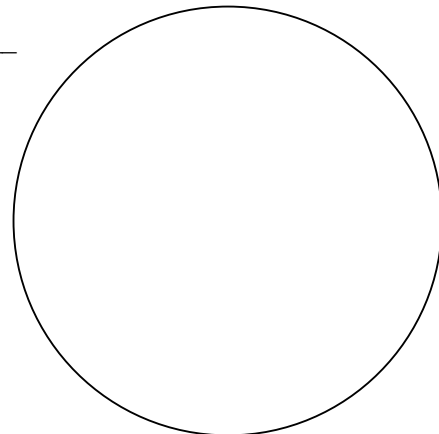
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 84: Mons Pico & Mons Teneriffe**

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes

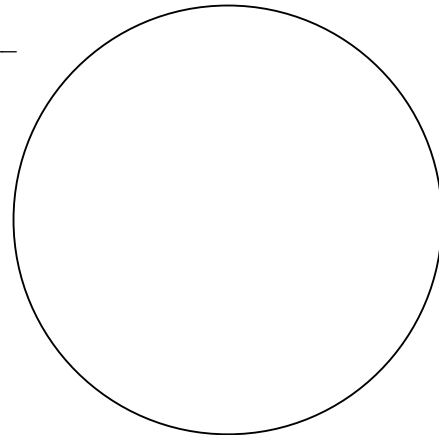
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 85: Plato**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

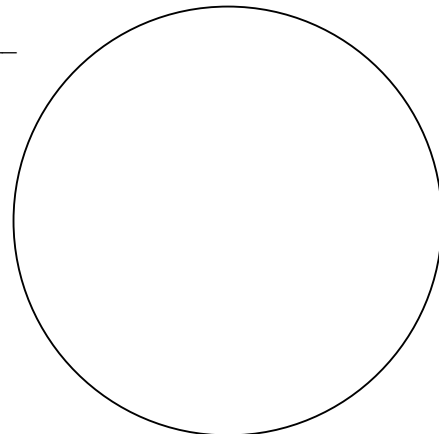
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 86: Tycho

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

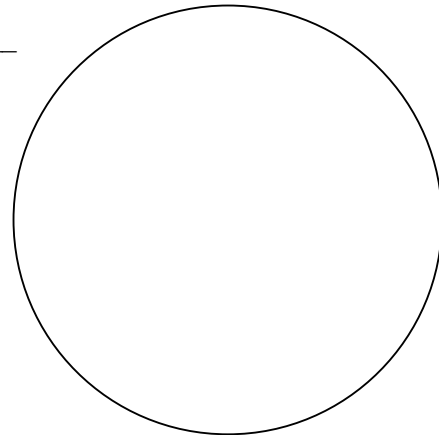
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 87: Eratosthenes

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

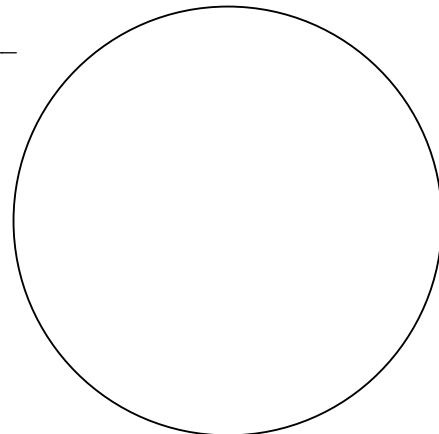
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 88: Gauricus & Wurzelbauer**

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes

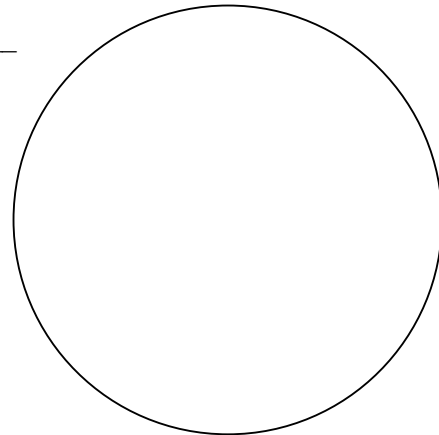
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 89: Timocharis**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

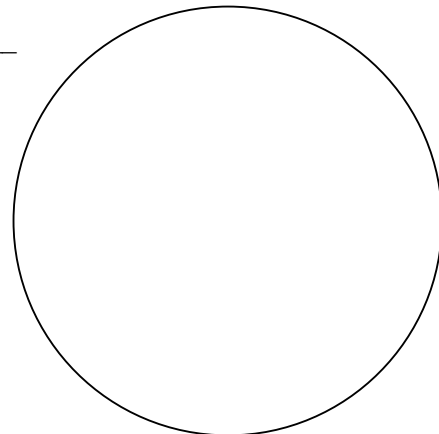
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



### Objective 90: Pitatus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

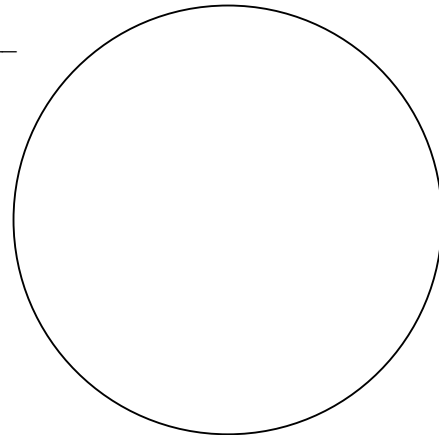
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 91: Stadius

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

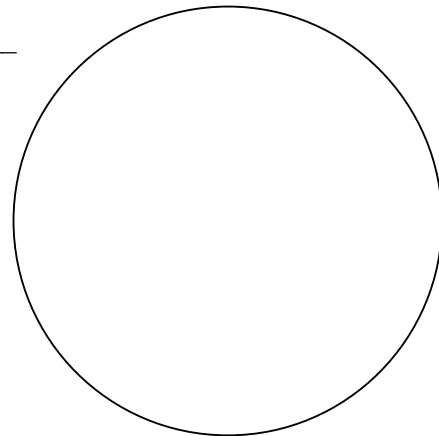
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 92: Clavius

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

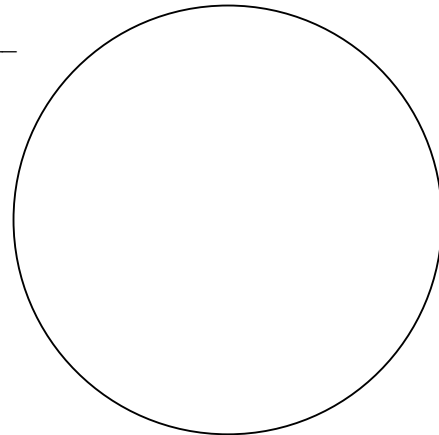
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 93: Fra Mauro Formation

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

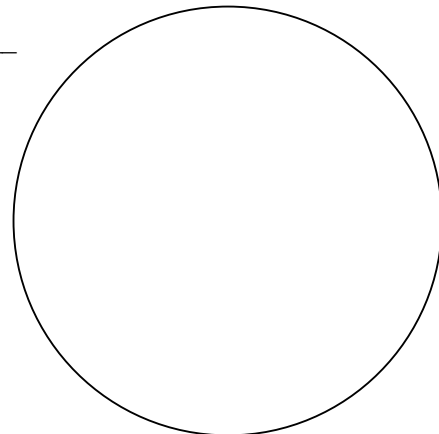
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 94: Montes Recti

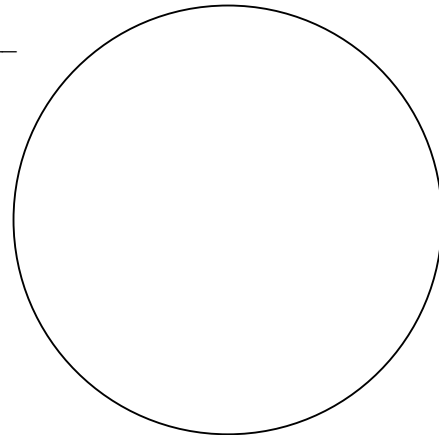
Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 95: Copernicus

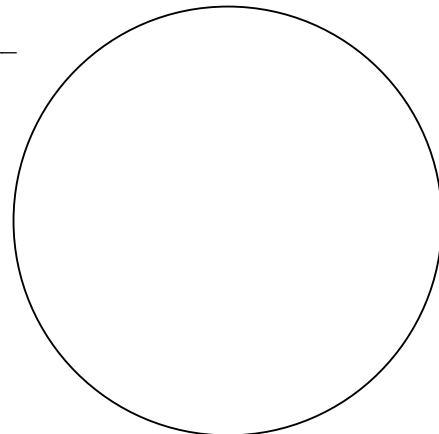
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



**Objective 96: Mare Imbrium / Eratosthenes / Copernicus System**

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations (None)	Date	Time

Notes

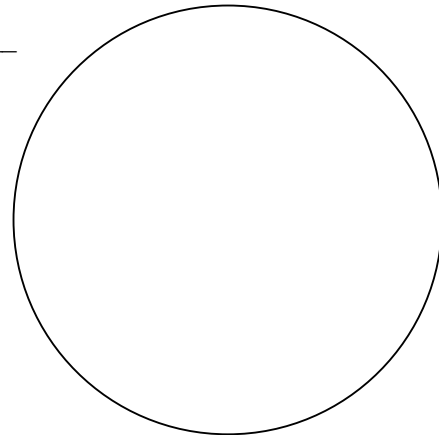
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 97: Wilhelm & Heinsius**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

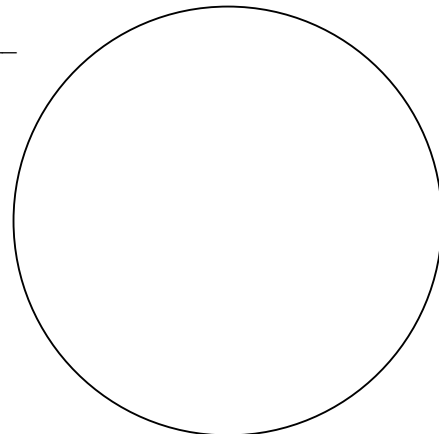
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 98: Blancanus & Scheiner**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

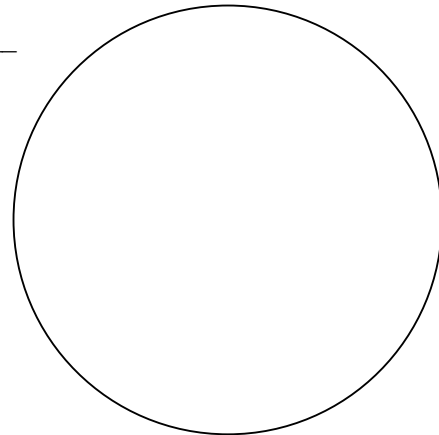
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 99: Longomontanus**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time

Notes

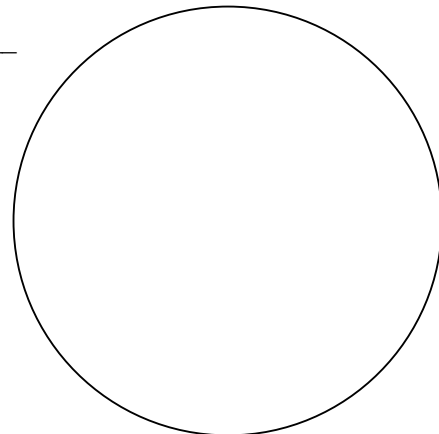
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 100: Bullialdus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time

Notes

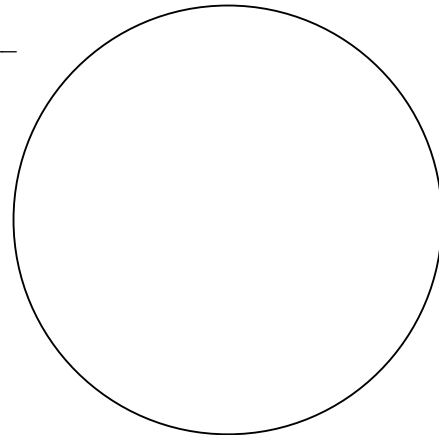
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 101: Kies, Mercator, & Campanus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

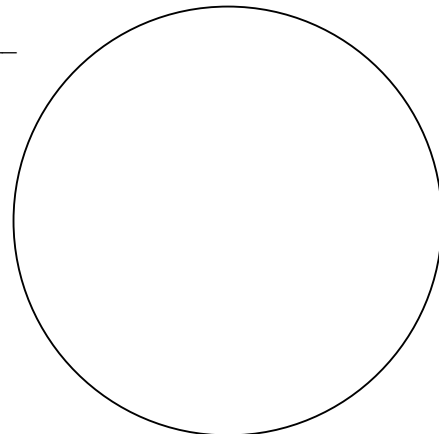
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 102: Mare Cognitum & Kuiper

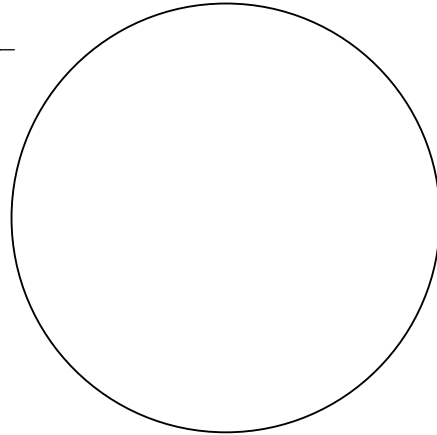
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:        1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 103: Reinhold & Lansberg

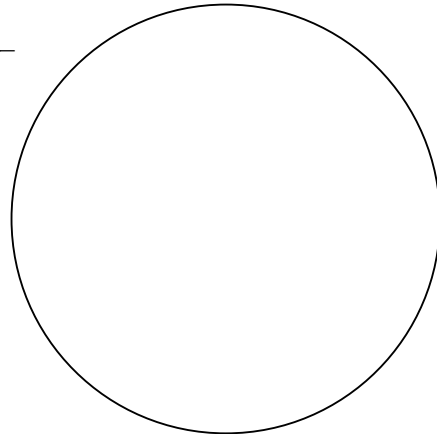
Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Seeing:                    1 2 3 4 5  
Transparency:        1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective 104: Dorsum Zirkel & Dorsum Heim

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes

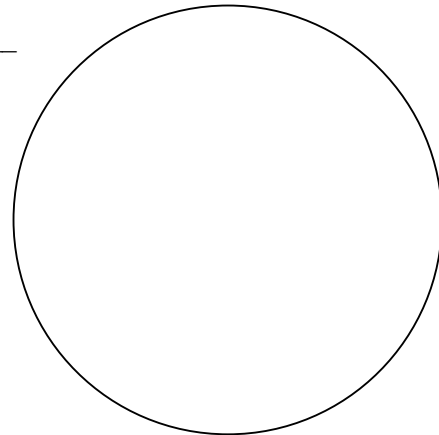
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 105: Montes Carpatius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes

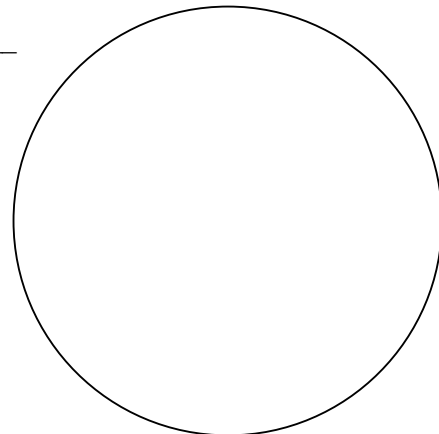
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



### Objective 106: Sinus Iridum

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes

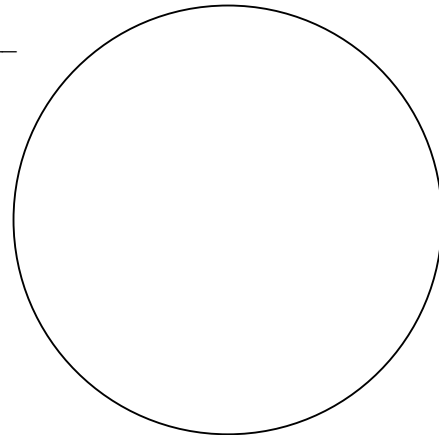
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 107: Klaproth & Casatus

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes

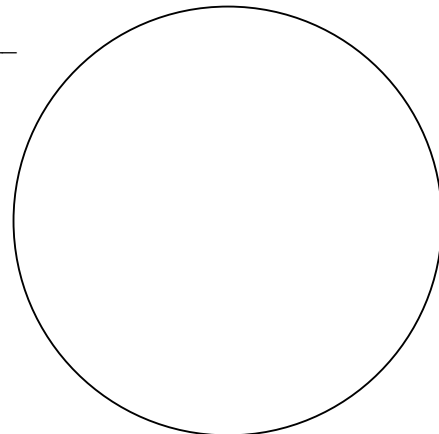
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 108: Palus Epidemiarum

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

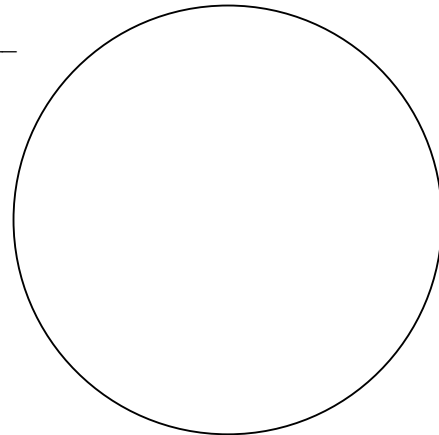
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 109: Lacus Timoris

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

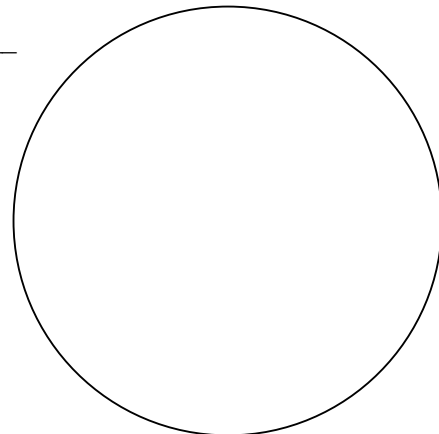
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 110: Montes Riphaeus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

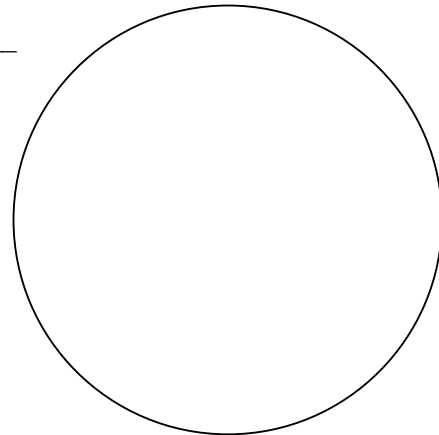
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 111: Hortensius & Hortensius Domes

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

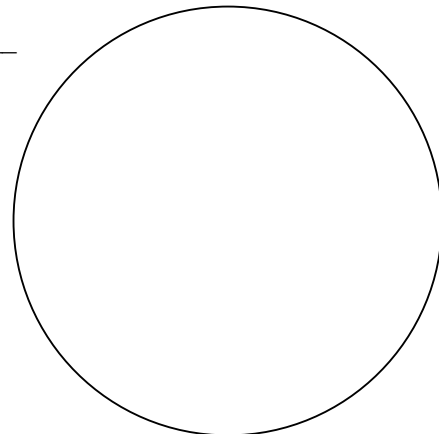
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 112: Mare Insularum Volcanic Complex

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

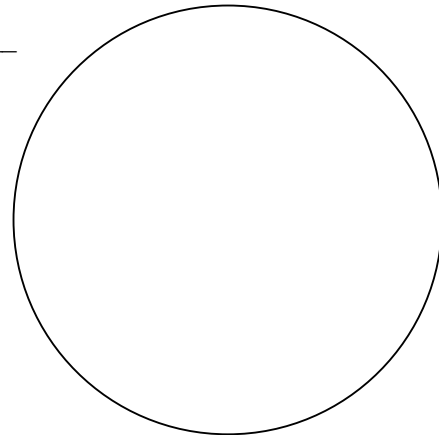
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 113: Promontorium Kelvin & Rupes Kelvin

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes

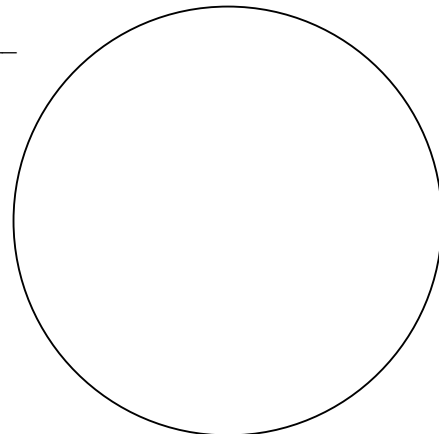
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 114: Mons Delisle & Mons Vinogradov**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

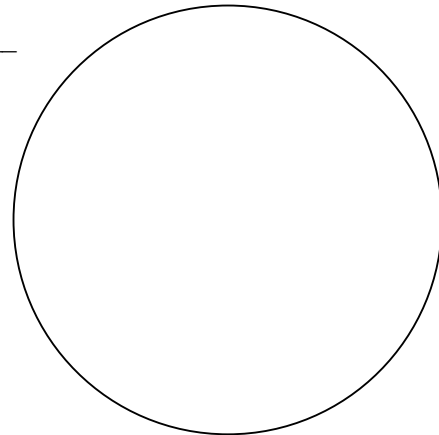
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 115: Kepler & Encke**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

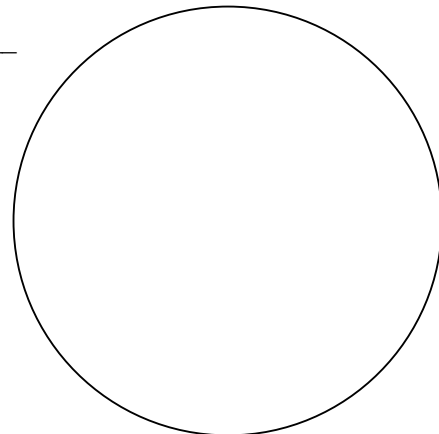
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

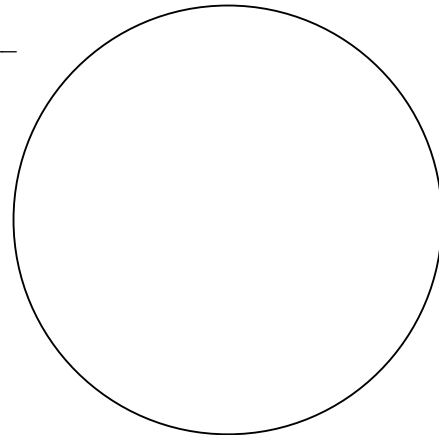
### Objective 116: Gassendi

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_

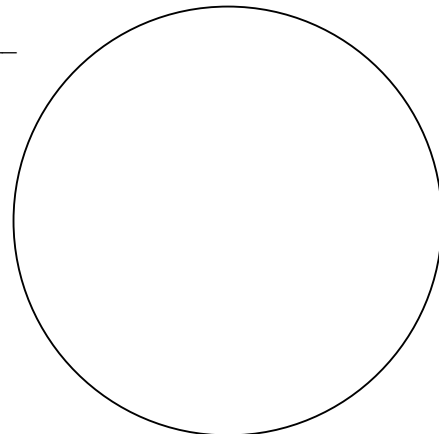
### Objective 117: Mons Gruithuisen Gamma & Delta

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

#### Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_

**Objective 118: Schiller & the Schiller-Zucchius Basin**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

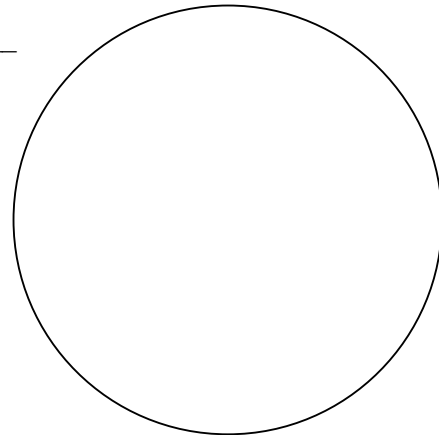
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 119: Montes Harbinger**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

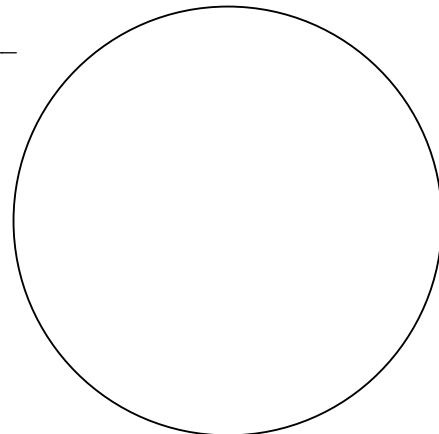
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 120: Letronne & Flamsteed

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

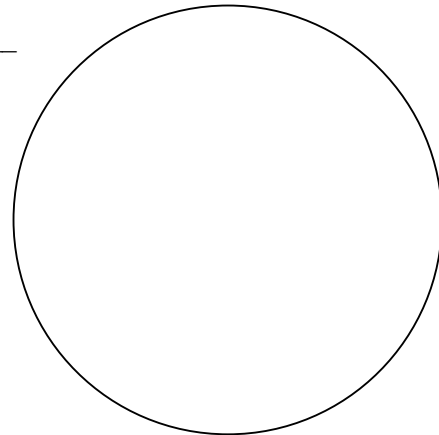
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 121: Rupes Liebig

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

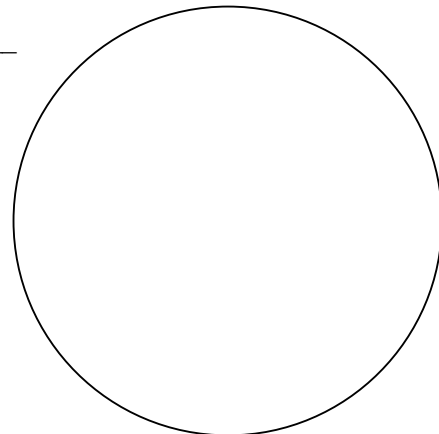
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_



**Objective 122: Aristarchus Plateau & Vallis Schröteri**

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

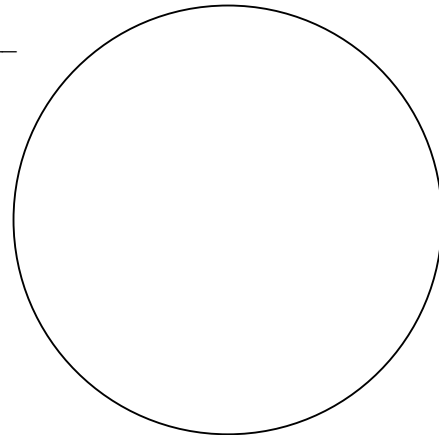
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 123: Mersenius & Rimae Mersenius**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

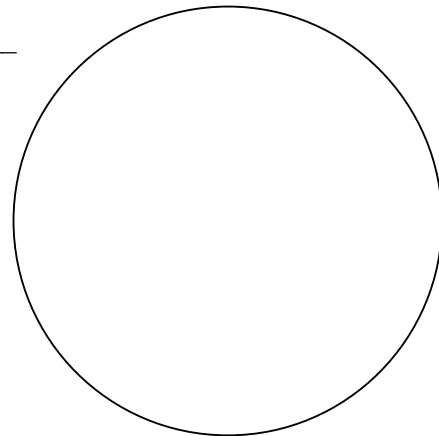
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 124: Billy & Hansteen**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

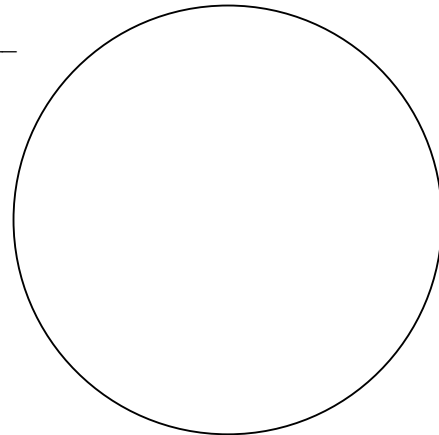
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 125: Zucchius, Bettinus, & Kircher**

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes

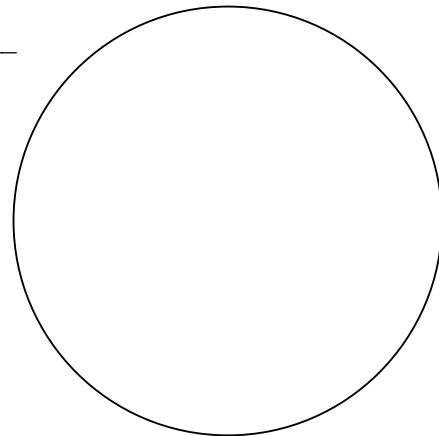
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 126: Marius & Marius Hills

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes

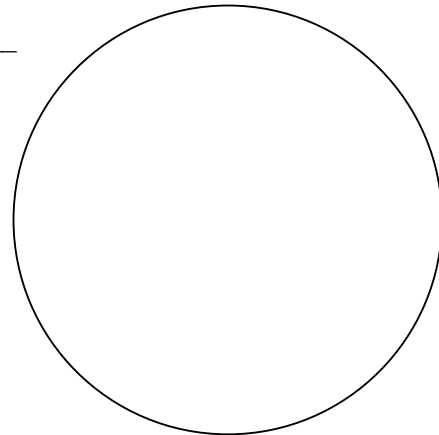
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 127: Schickard & Lacus Excellentiae

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		

Notes

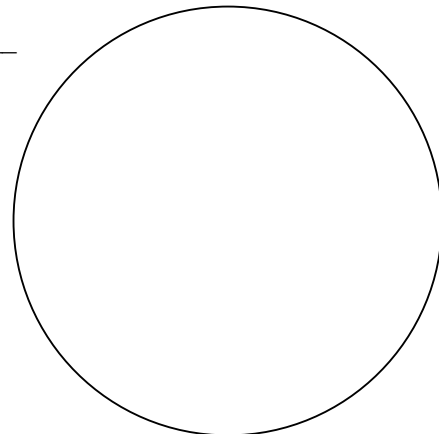
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 128: Vieta & Fourier**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

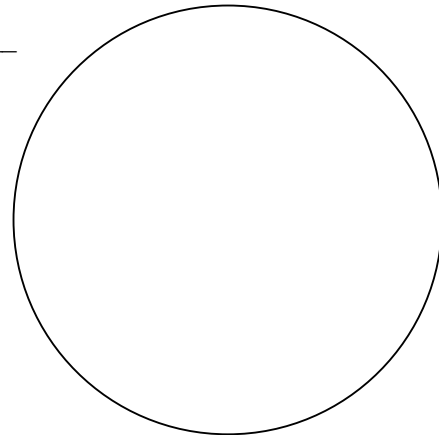
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 129: Phocylides & Wargentín**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

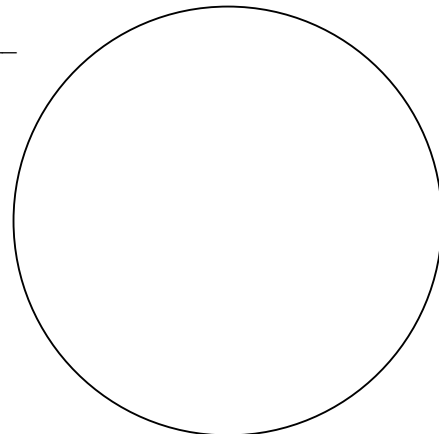
Notes

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 130: Mons Rümker

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

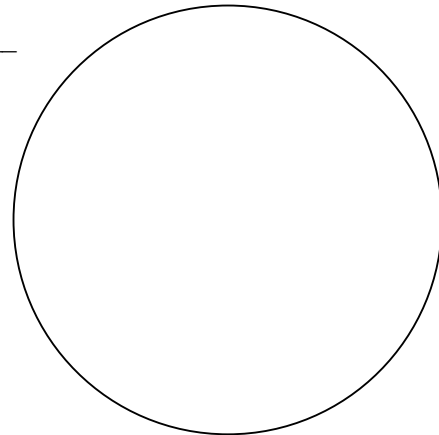
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective 131: Reiner Gamma & Galilaei

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		

Notes

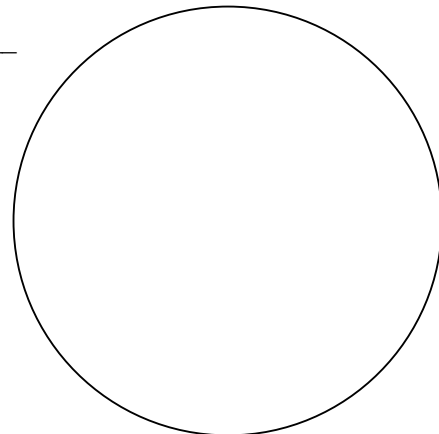
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 132: Sirsalis & Rimae Sirsalis**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes

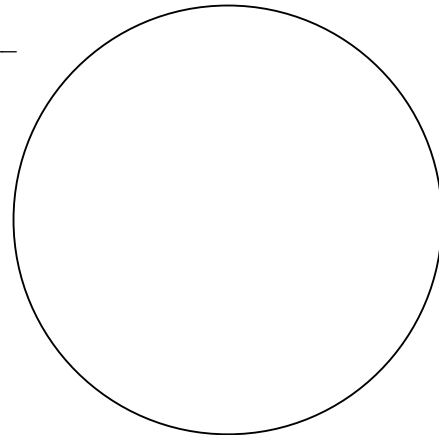
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 133: Pythagoras, Harpalus, & Bouguer**

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		
C2		

Notes

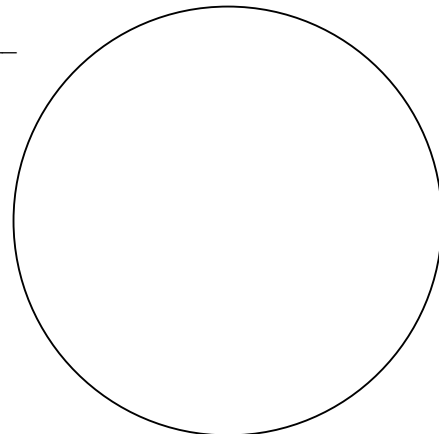
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 134: Grimaldi**

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes

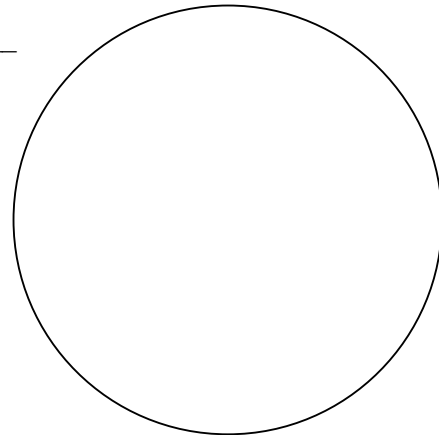
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

**Objective 135: Lacroix & Southwestern Limb Region**

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes

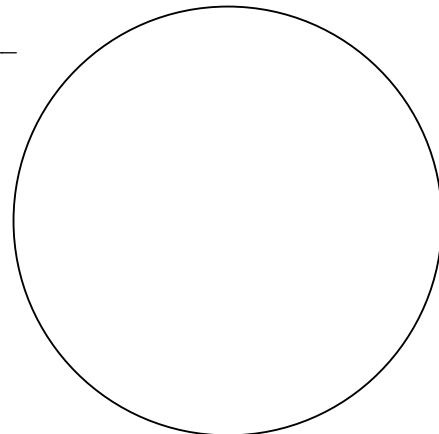
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective L1: Mare Australe

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

---

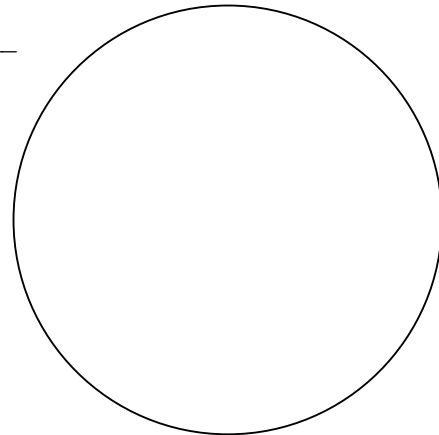
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:        1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective L2: Mare Marginis

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

---

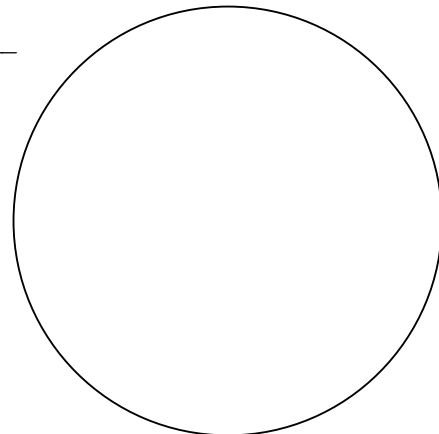
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:        1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_





### Objective L3: Mare Smythi

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

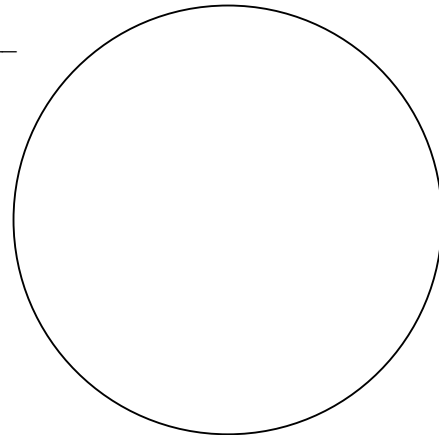
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective L4: Hubble

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

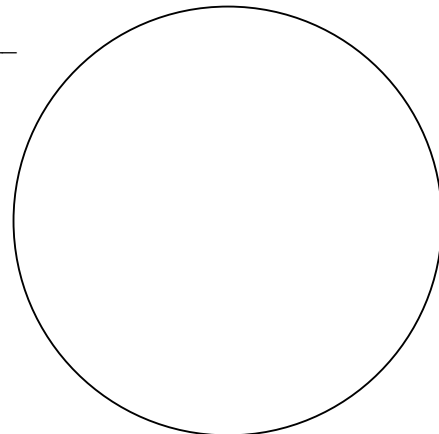
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:           1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective L5: Gartner & Democritus

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

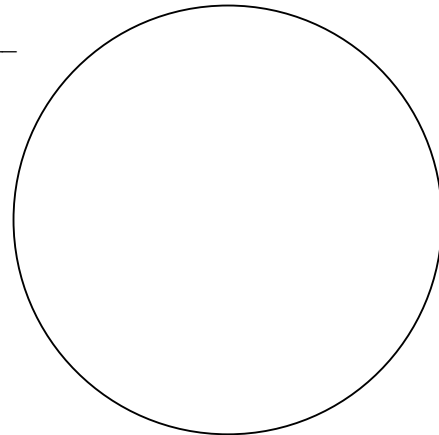
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective L6: Markov

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

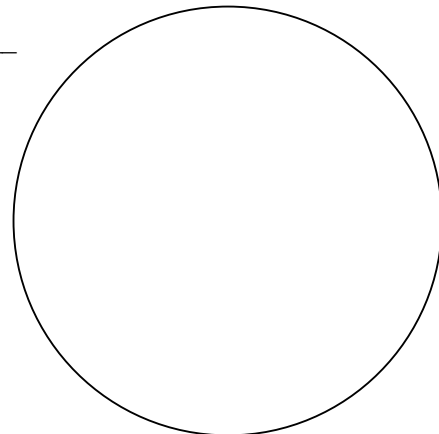
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective L7: Seleucus

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

---

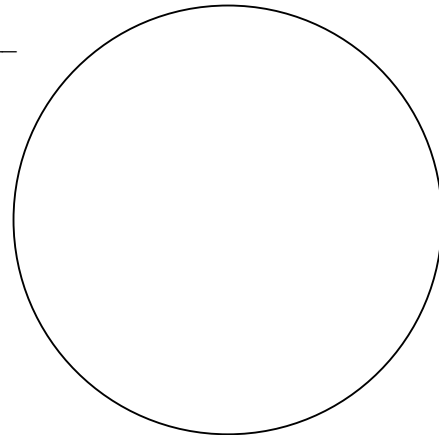
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective L8: Bailly

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		
C2		

Notes

---

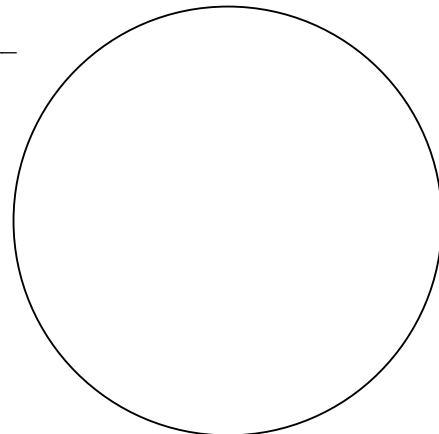
---

---

---

---

Seeing:                    1 2 3 4 5  
Transparency:         1 2 3 4 5  
Telescope: \_\_\_\_\_  
Magnification: \_\_\_\_\_



### Objective L9: Ulugh Beigh & Aston

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		
C2		

Notes

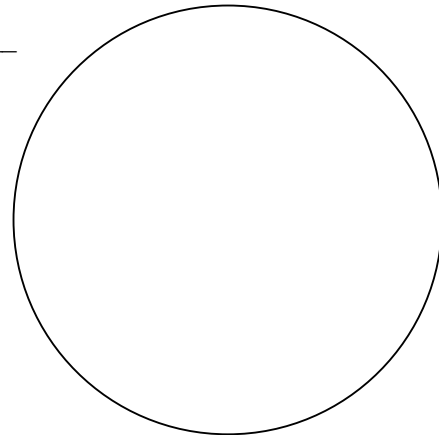
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

### Objective L10: Mare Orientale

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes

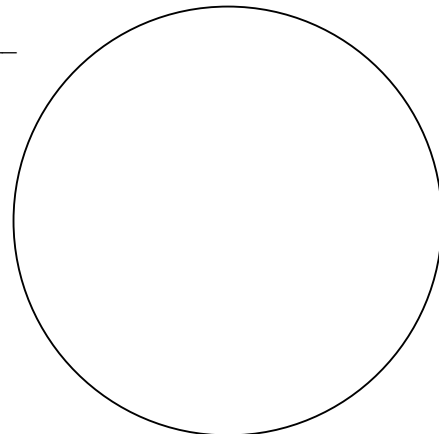
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



Seeing:                    1 2 3 4 5  
 Transparency:        1 2 3 4 5  
 Telescope: \_\_\_\_\_  
 Magnification: \_\_\_\_\_

