

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. **The IWLOP Deluxe Observing Forms must be used and submitted.**

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.

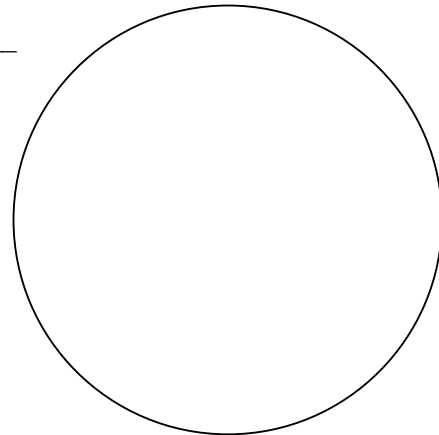
The telescope and magnification fields provide a space to record the instrument(s) and the power used for each observation. The magnification, or power, is based on the focal length of the telescope divided by the focal length of the eyepiece used.

Objective 1a: Eastern Mare Crisium

Required Observations (Eastern Mare Crisium)	Date	Time
R1		

Challenge Observations (Eastern Mare Crisium)	Date	Time
C1		

Notes



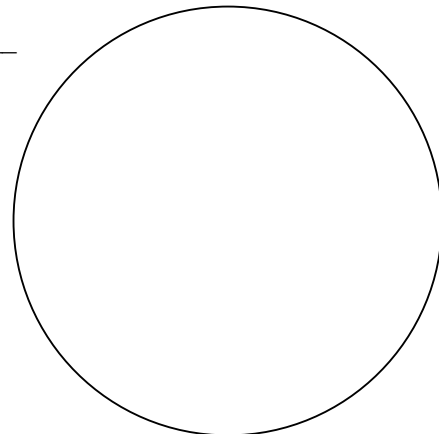
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 1b: Western Mare Crisium

Required Observations (Western Mare Crisium)	Date	Time
R1		
R2		

Challenge Observations (Western Mare Crisium)	Date	Time
C1		

Notes



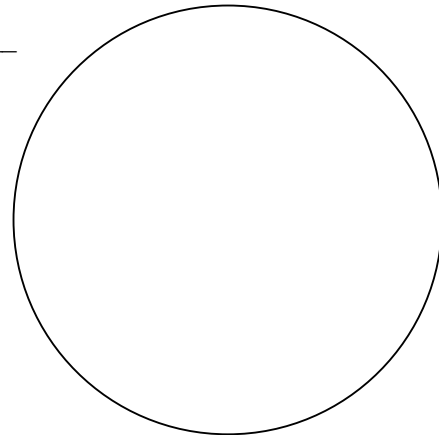
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 2: Eastern Basin Group

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes



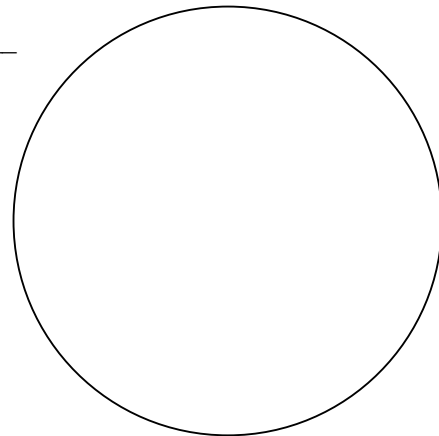
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 3: Mare Anguis

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



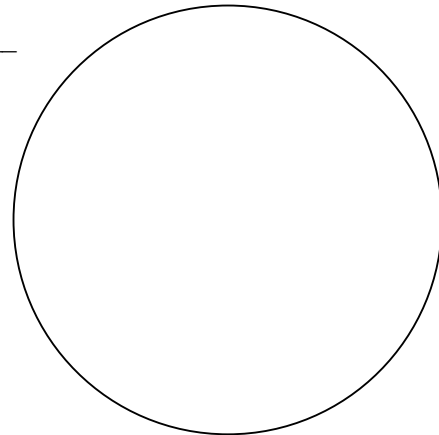
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 4: Vendelinus

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

Notes



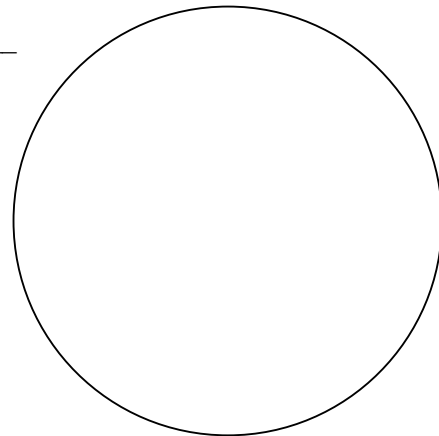
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 5: Langrenus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



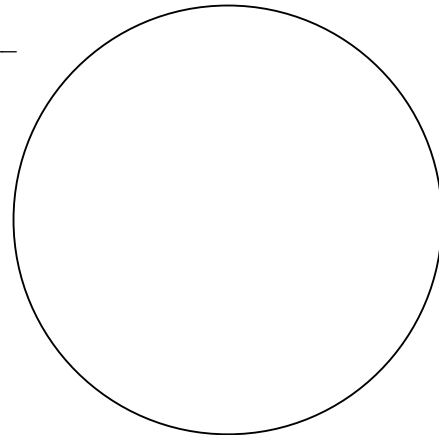
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 6: Petavius

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



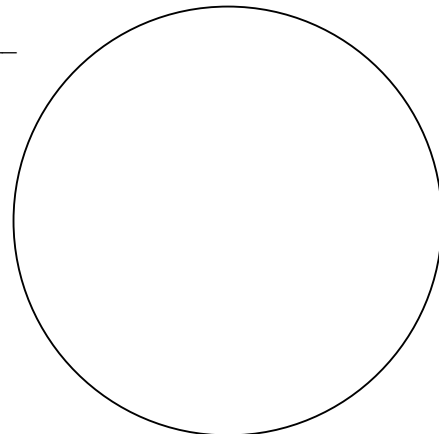
Seeing: 1 2 3 4 5
Transparency: 1 2 3 4 5
Telescope: _____
Magnification: _____

Objective 7: Furnerius & Fraunhofer

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



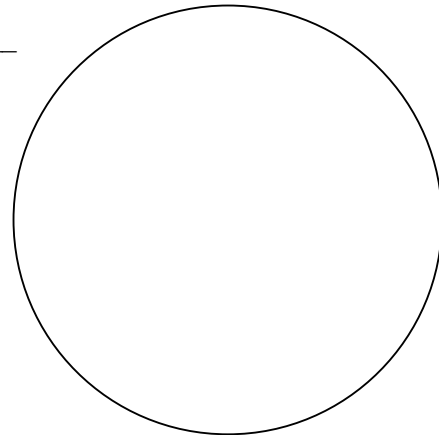
Seeing: 1 2 3 4 5
Transparency: 1 2 3 4 5
Telescope: _____
Magnification: _____

Objective 8: Geminus & Lacus Spei

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



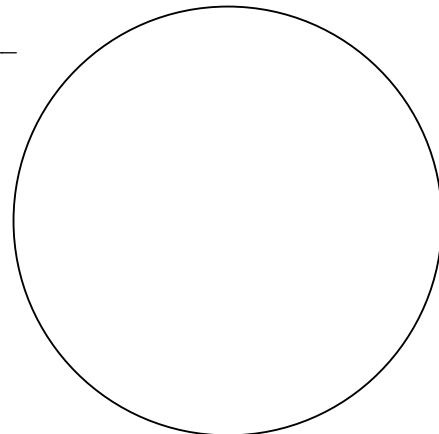
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

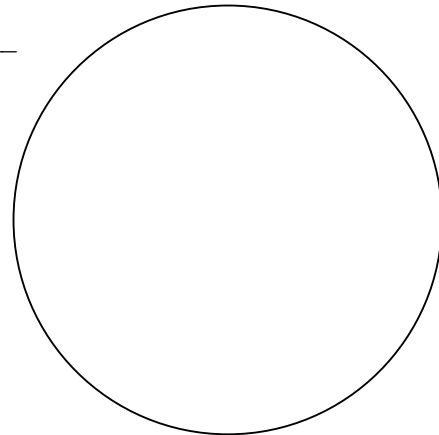
Objective 10: Snellius & Vallis Snellius

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: _____



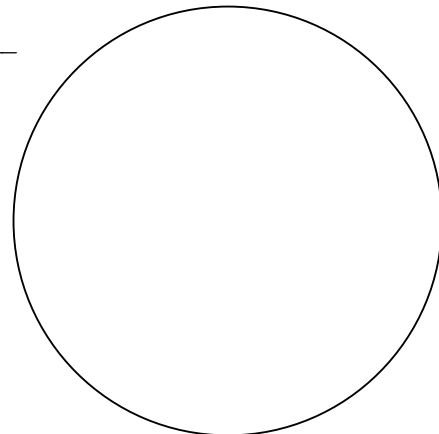
Objective 11: Cleomedes & Macrobius

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: _____

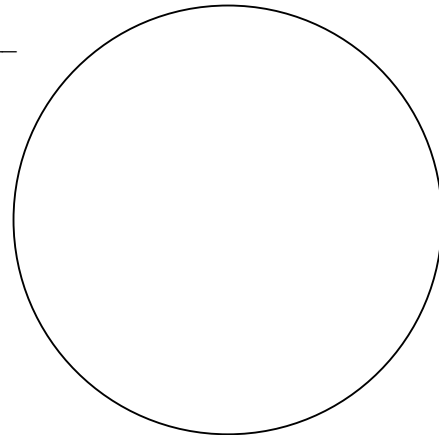


Objective 12: Stevinus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



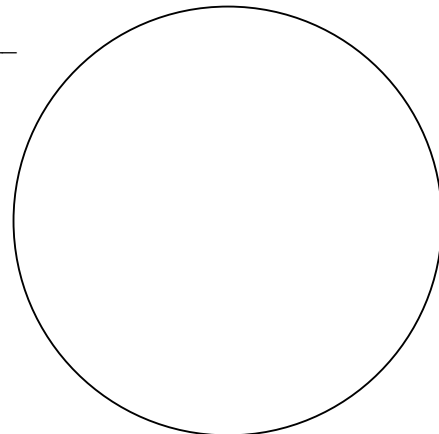
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 13a: Eastern Mare Fecunditatis

Required Observations (Eastern Mare Fecunditatis)	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



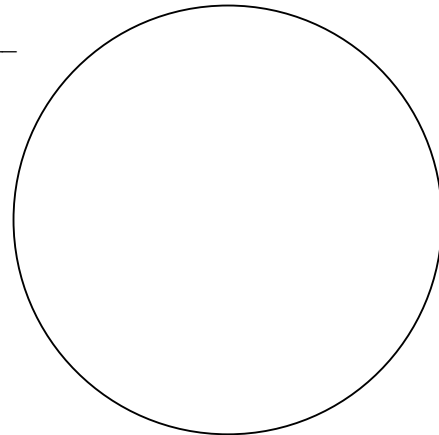
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 13b: Central Mare Fecunditatis

Required Observations (Central Mare Fecunditatis)	Date	Time
R1		
R2		

Challenge Observations (Central Mare Fecunditatis)	Date	Time
C1		

Notes



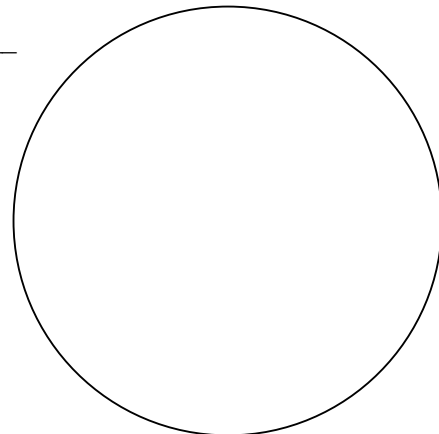
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 13c: Western Mare Fecunditatis

Required Observations (Western Mare Fecunditatis)	Date	Time
R1		
R2		

Challenge Observations (Western Mare Fecunditatis)	Date	Time
C1		
C2		

Notes



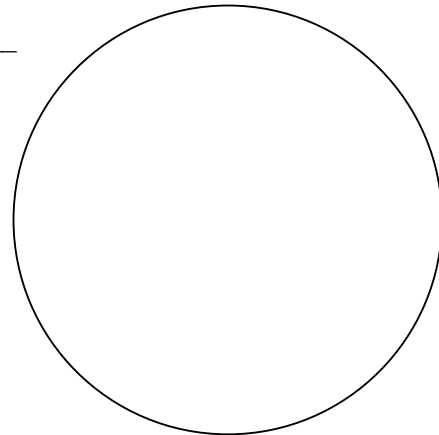
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 14: Vallis Rheita

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



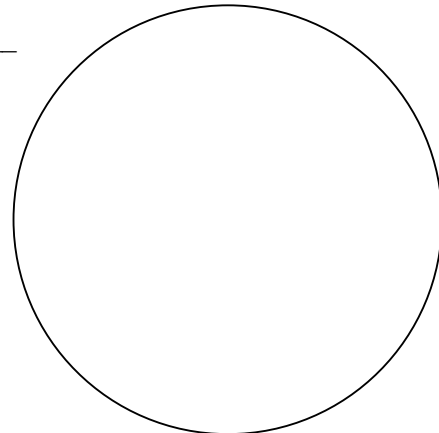
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 15: Promontoria Lavinium & Olivium

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



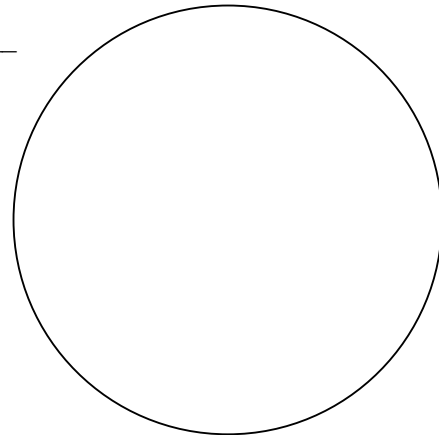
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

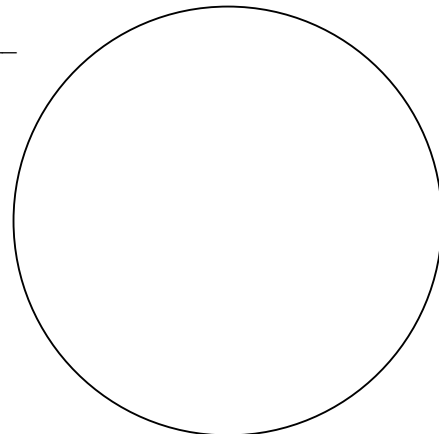
Magnification: _____

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: _____

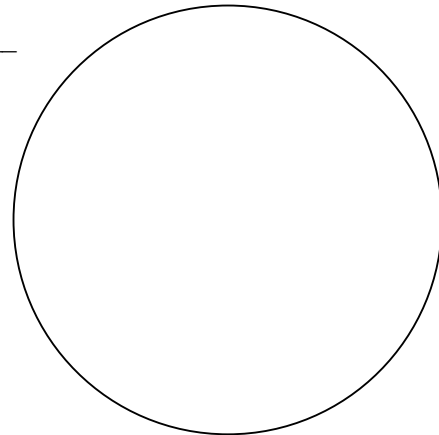
Magnification: _____

Objective 18: Palus Somni & Proclus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



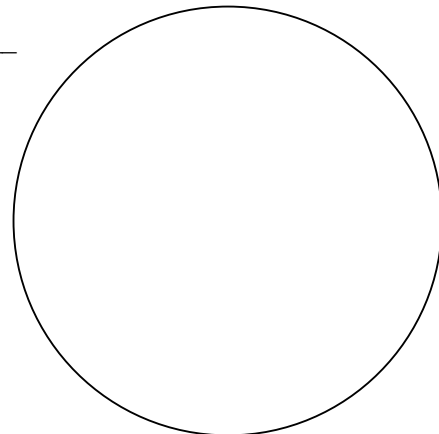
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 19: Newcomb

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



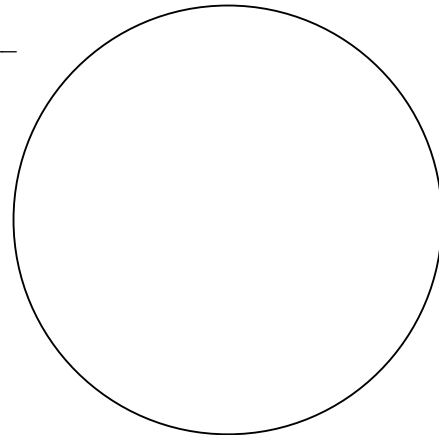
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 20: Metius & Fabricius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



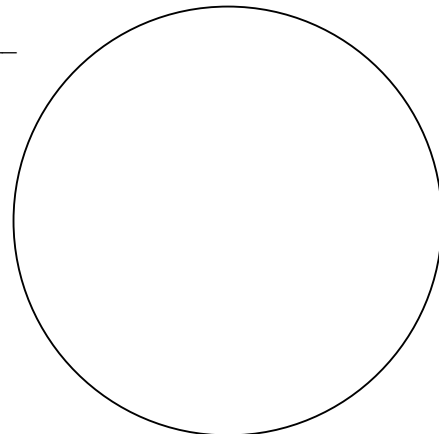
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 21: Sinus Concordiae

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



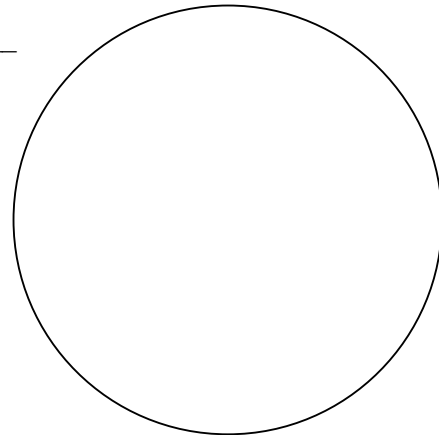
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 22: Janssen

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



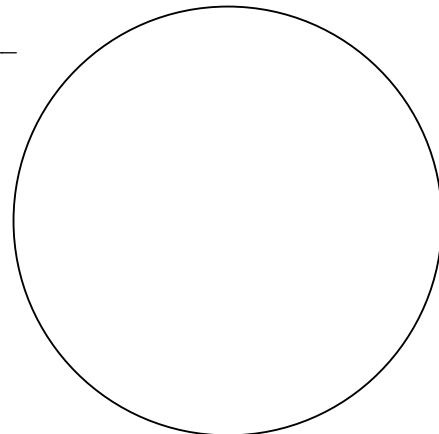
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 23: Montes Pyrenaeus

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



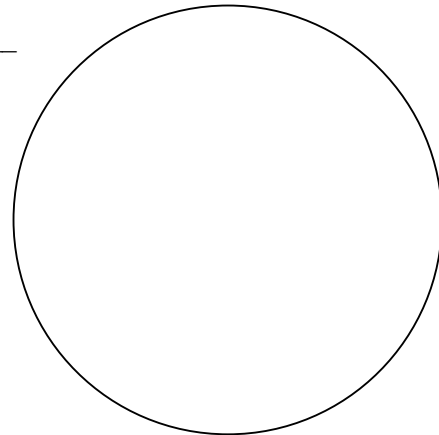
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 24: Atlas & Hercules

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



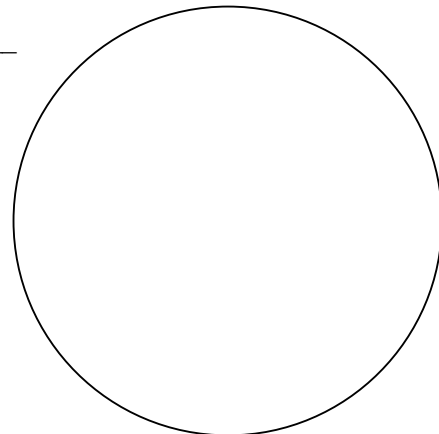
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 25: Mare Nectaris

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



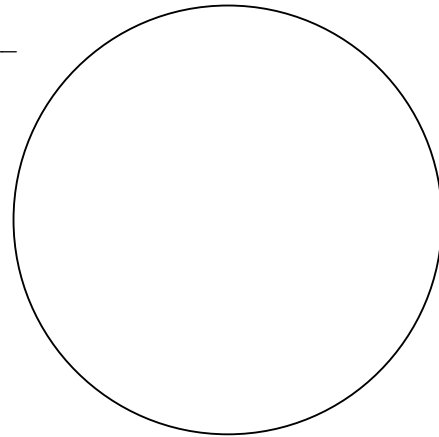
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 26: Rupes Cauchy & Cauchy Domes

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



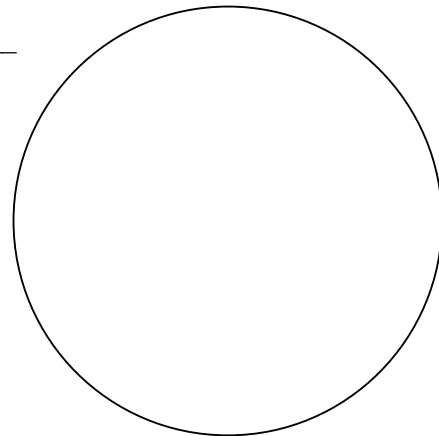
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 27: Sinus Amoris

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

Notes



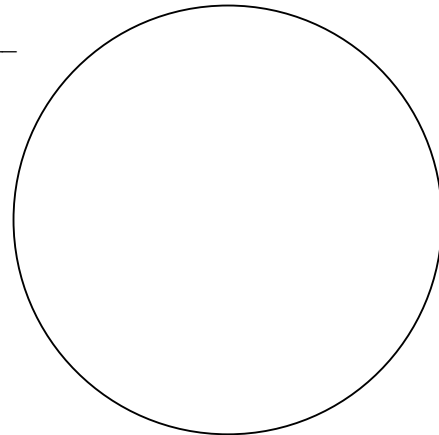
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 28: Capella & Vallis Capella

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



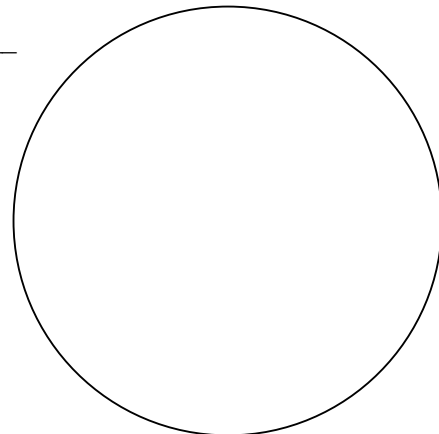
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 29: Fracastorius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



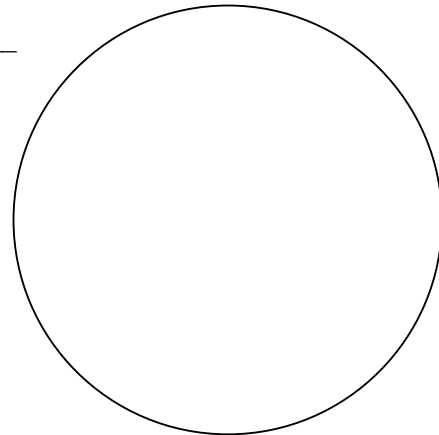
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 30: Hommel

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



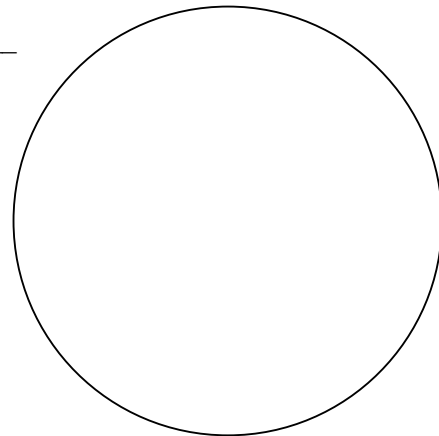
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

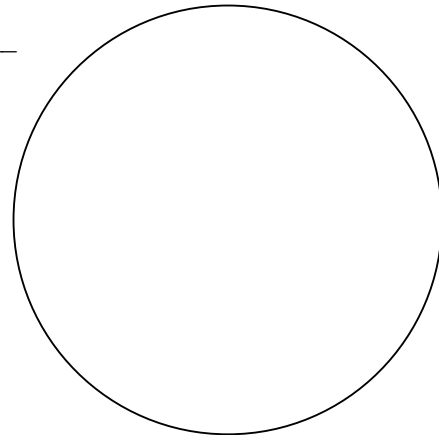
Objective 32: Wohler

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: _____



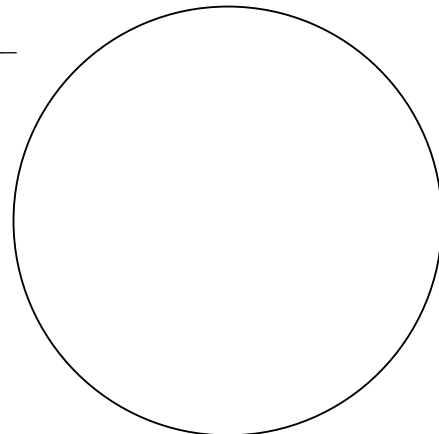
Objective 33: Posidonius

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: _____

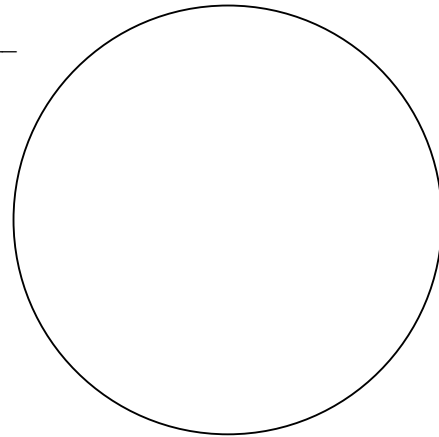


Objective 34: Dorsa Aldrovandi & Mons Argaeus

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes



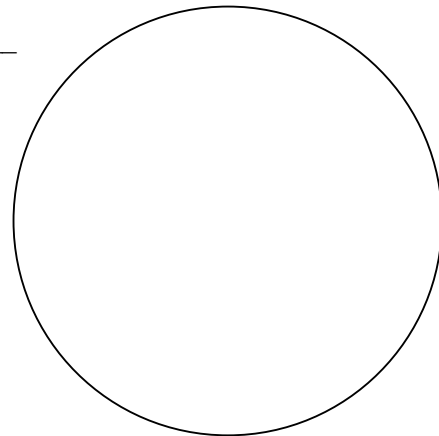
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 35: Jansen

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



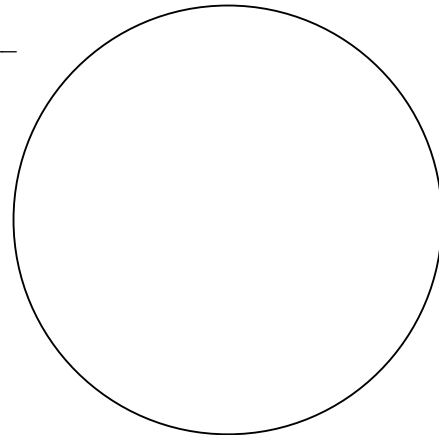
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 36: Lacus Mortis & Burg

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes



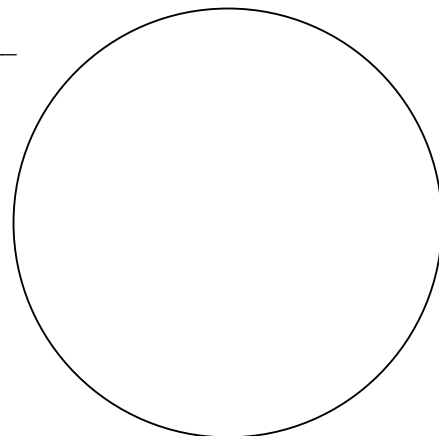
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		

Notes



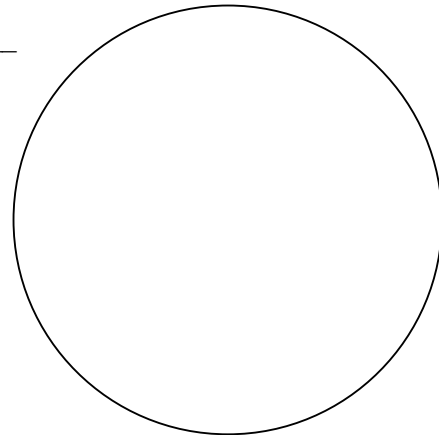
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



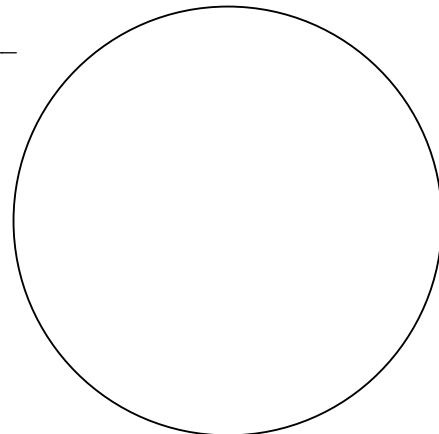
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



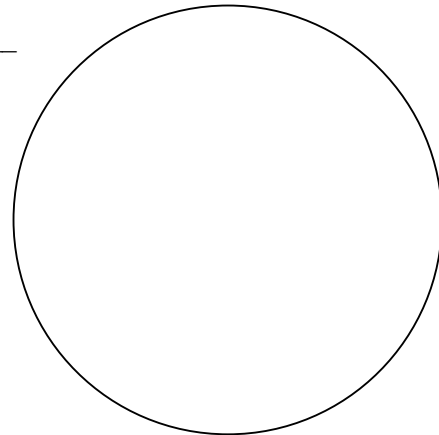
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 40: Rupes Altai

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



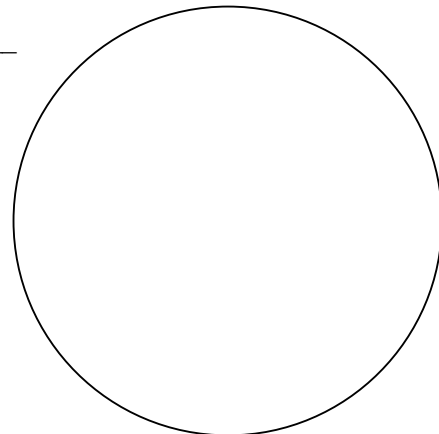
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 41: Mare Serenitatis

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



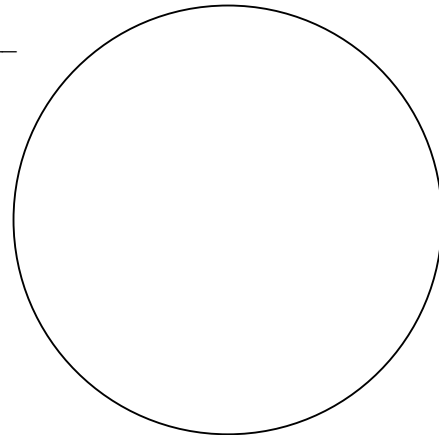
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 42: Sinus Asperitatis

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



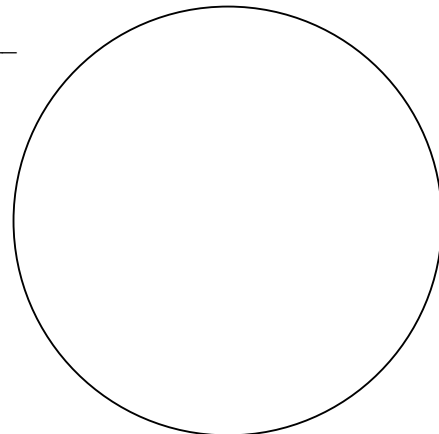
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 43: Plinius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



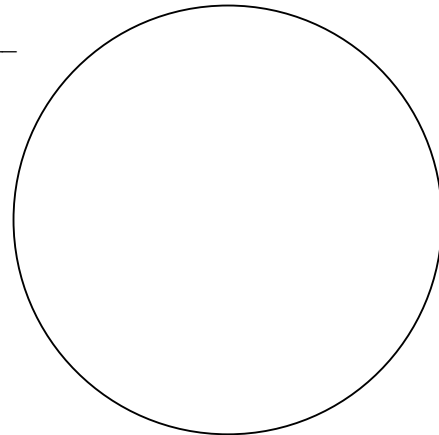
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 44: Lamont, Arago, & Ross

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		
C3		
C4		

Notes



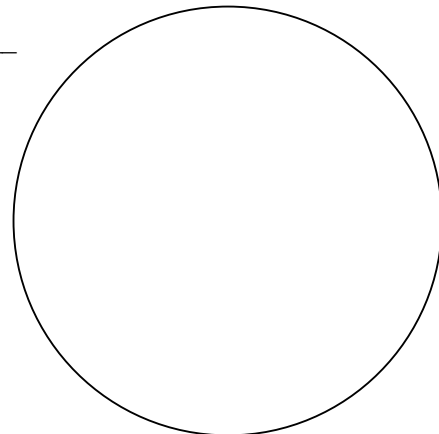
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 45: Moltke & Rimae Hypatia

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



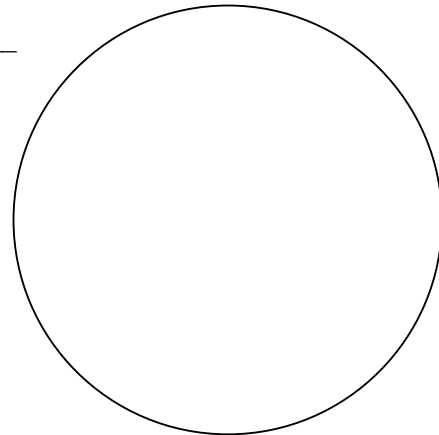
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 46: Zagut, Rabbi Levi, & Lindenau

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



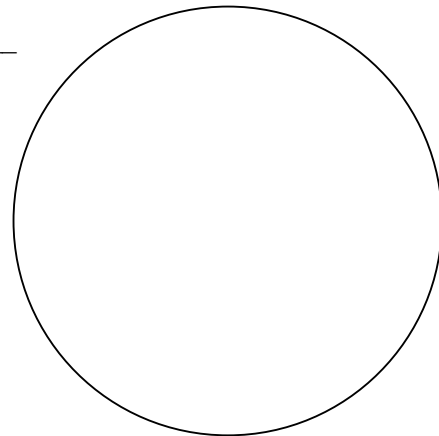
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 47: Delambre

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



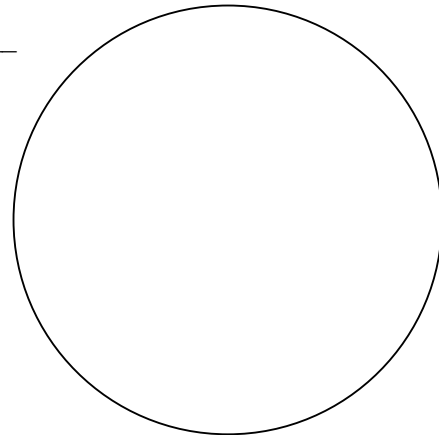
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 48: Aristoteles & Eudoxus

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		
C2		

Notes



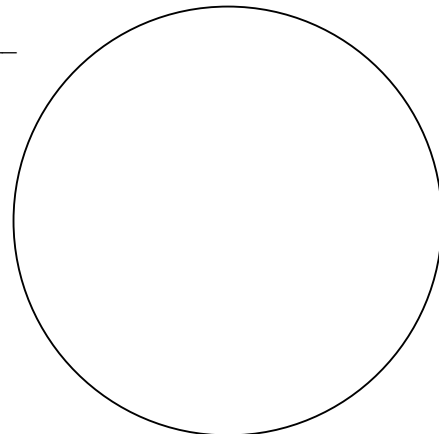
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 49: Sacrobosco & Playfair

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



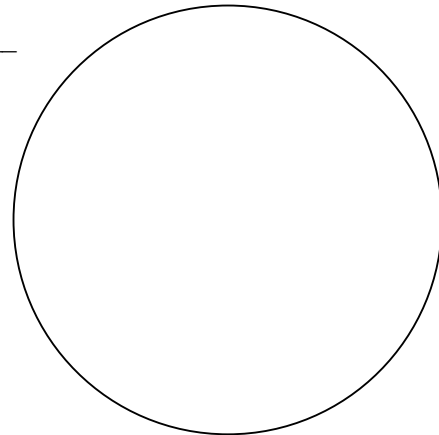
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 50: Maurolycus & Barocius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



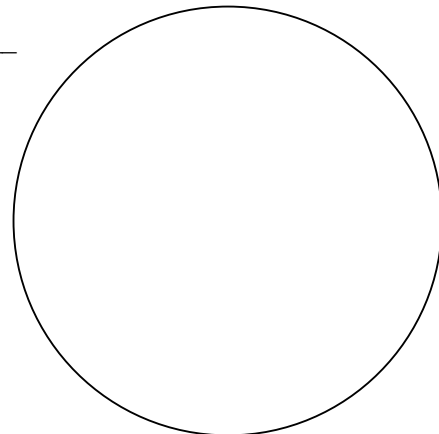
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 51: Gemma Frisius

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



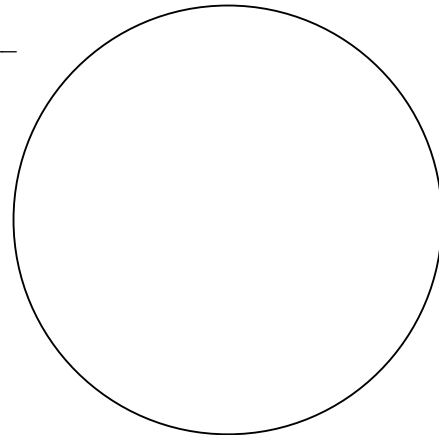
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 52: Montes Haemus & Mare Serenitatis Lacus Group

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



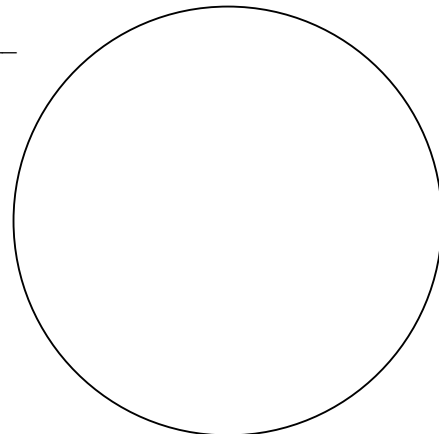
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 53: Rima Ariadaeus

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations (None)	Date	Time

Notes



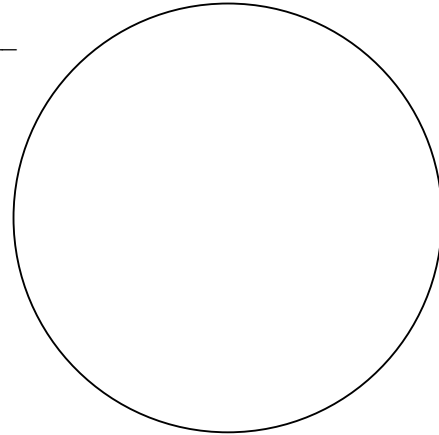
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 54: Abulfeda & Catena Abulfeda

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



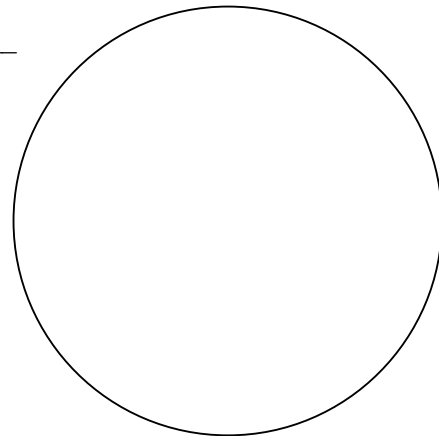
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 55: Abenezra & Azophi

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



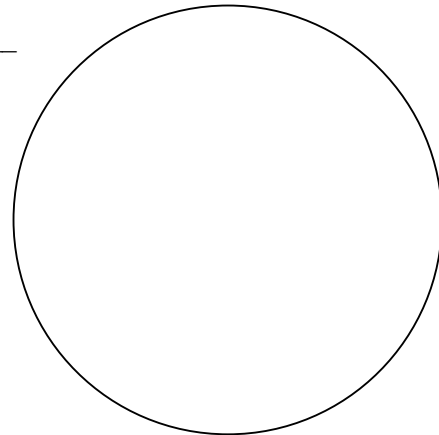
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 56: Dorsum von Cotta & Dorsum Buckland

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



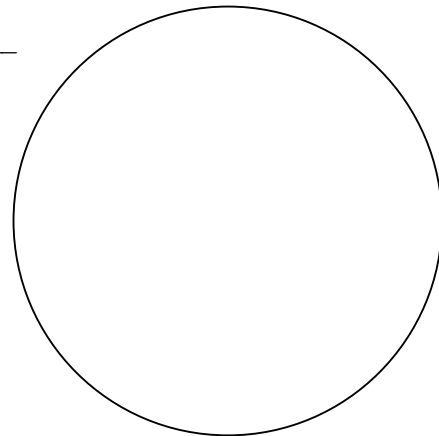
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 57: Linné

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



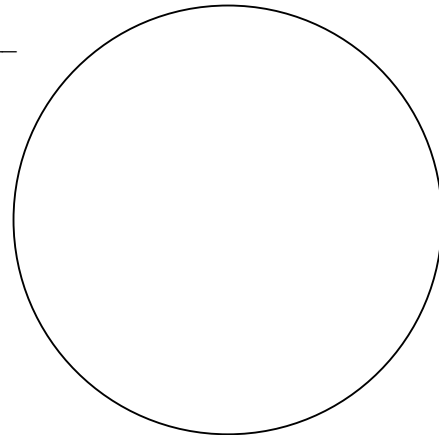
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 58: Cuvier

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



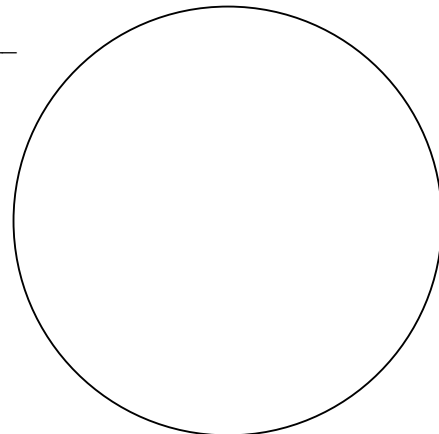
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 59: Manilius

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



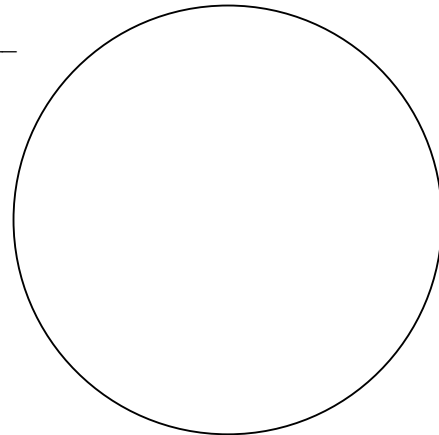
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 60: Montes Caucasus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



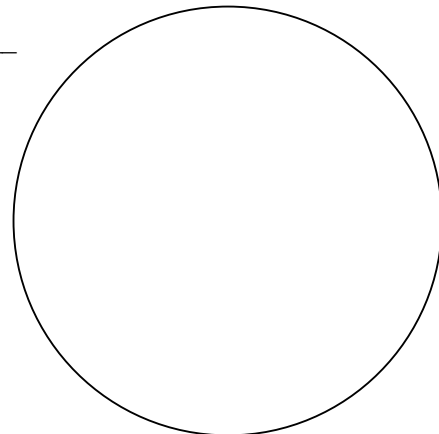
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 61: Rima Hyginus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



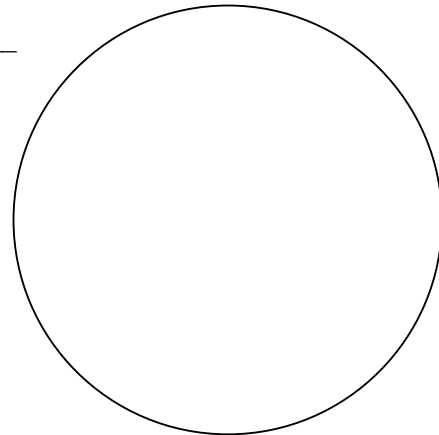
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 62: Stofler & Faraday

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations (None)	Date	Time

Notes



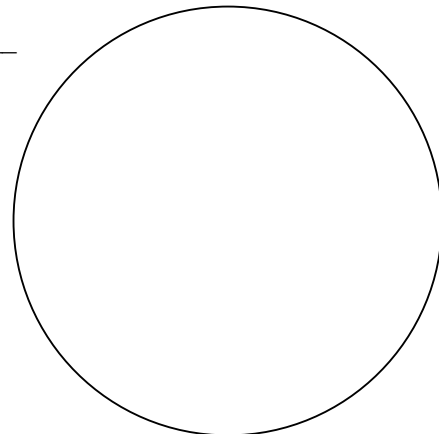
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 63: Airy, Arglander & Vogel

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time

Notes



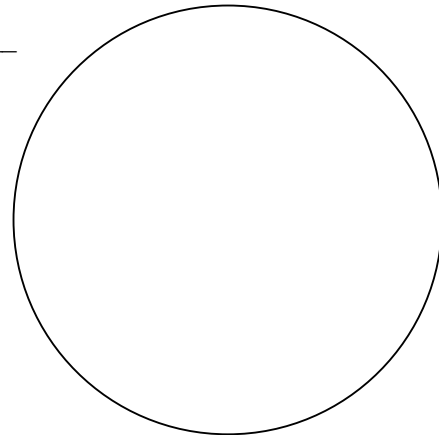
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

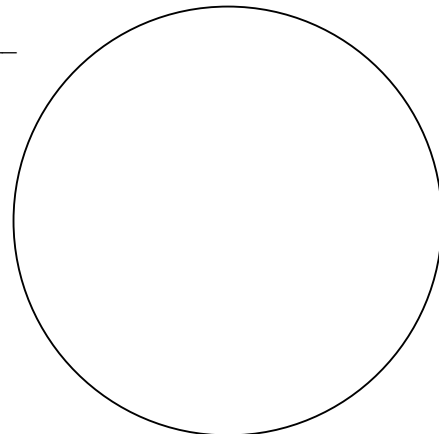
Magnification: _____

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: _____

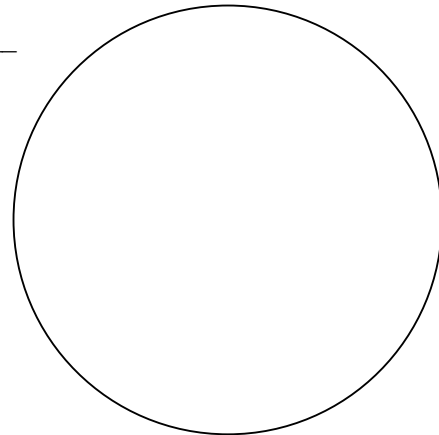
Magnification: _____

Objective 66: Albategnius

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



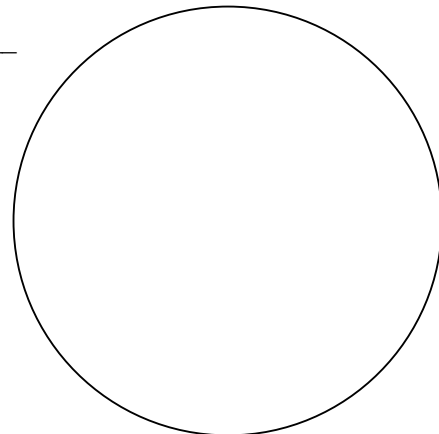
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 67: Werner & Aliacensis

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



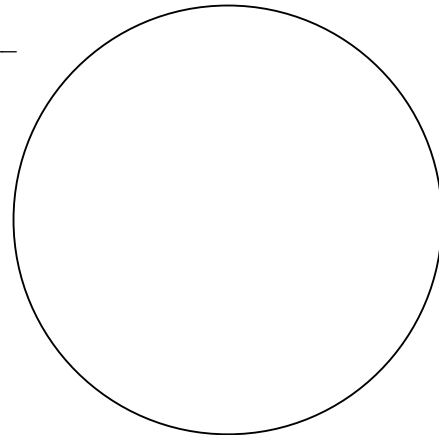
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 68: Montes Alpes & Vallis Alpes

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes



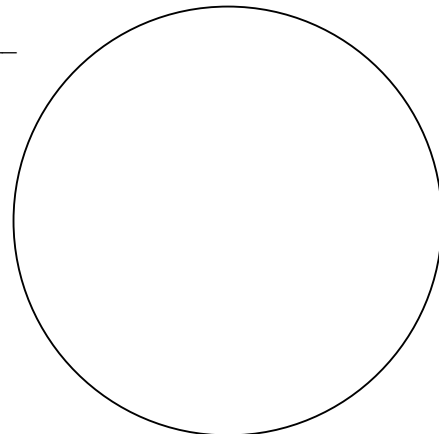
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 69: Aristillus & Autolycus

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes



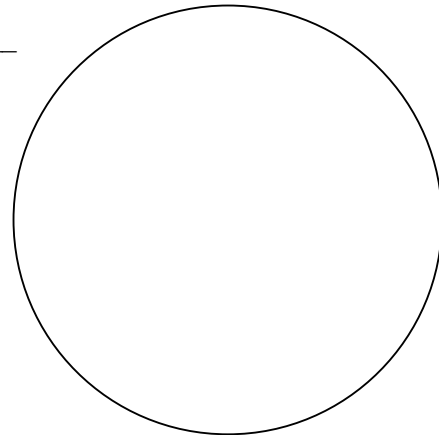
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 70: Montes Apenninus & Apennine Bench

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



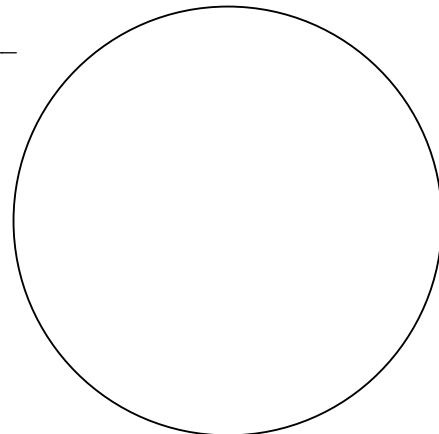
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 71: Walther (Walter before 1979)

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



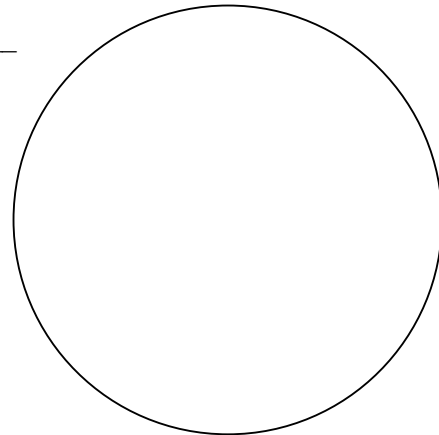
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 72: Huggins, Nasireddin, & Miller

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



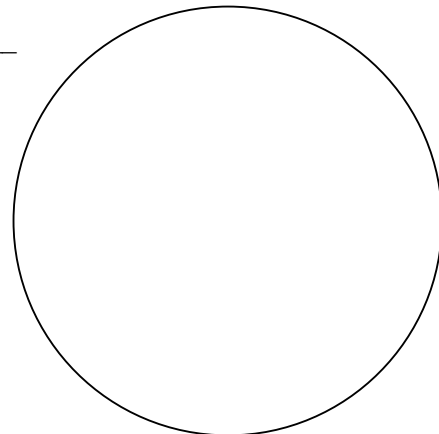
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

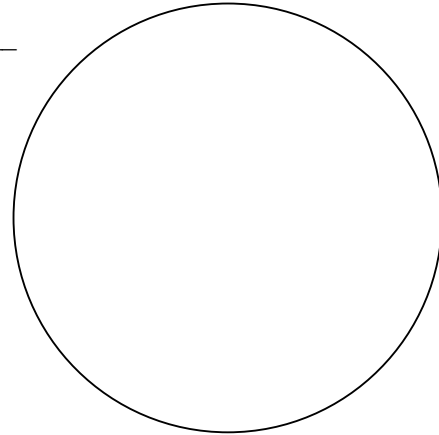
Objective 74: Arzachel

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: _____



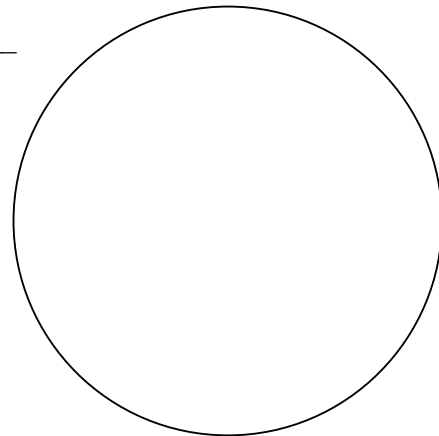
Objective 75: Ptolemaeus & Alphonsus

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: _____

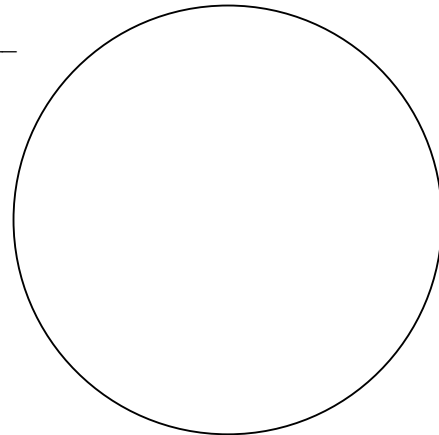


Objective 76: Goldshmidt

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



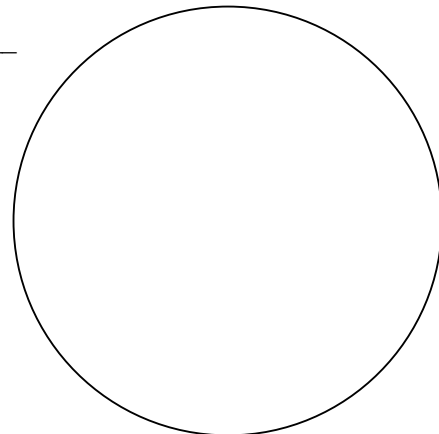
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 77: Montes Spitzbergen & Mons Piton

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



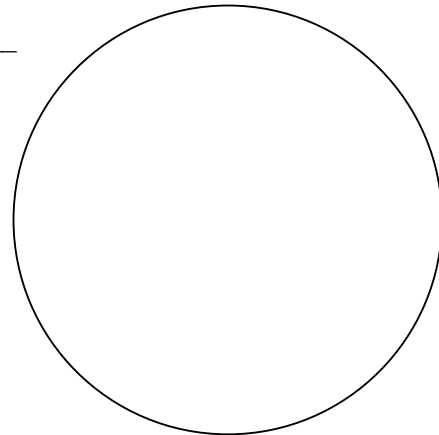
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 78: Archimedes & Montes Archimedes

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



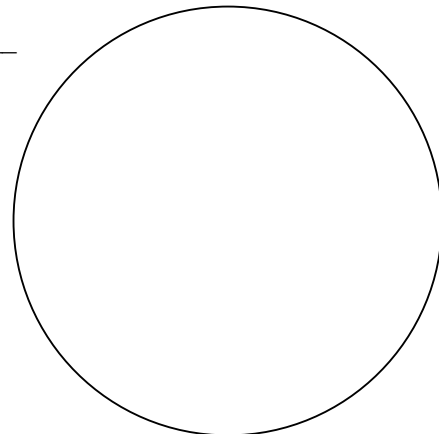
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 79: Deslandres

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



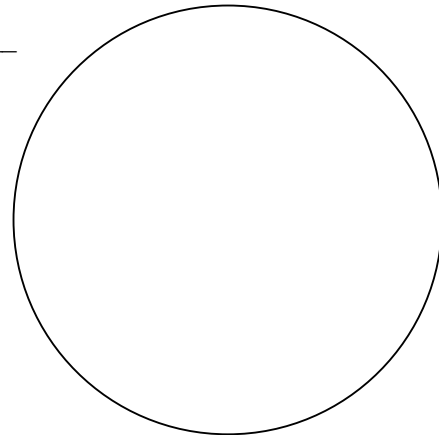
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 80: Moretus & South Polar Region

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



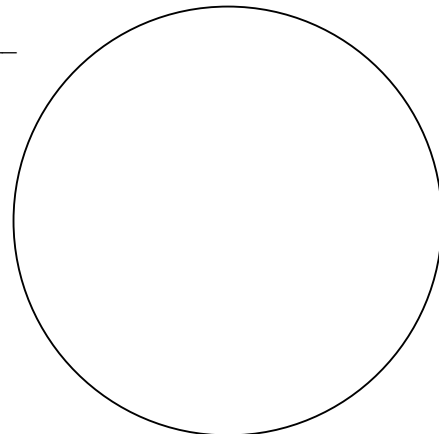
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 81: Maginus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



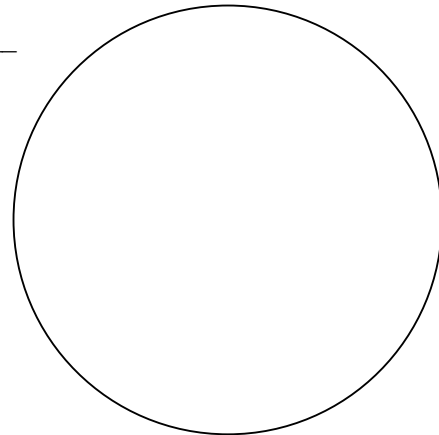
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 82: Davy & Catena Davy

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



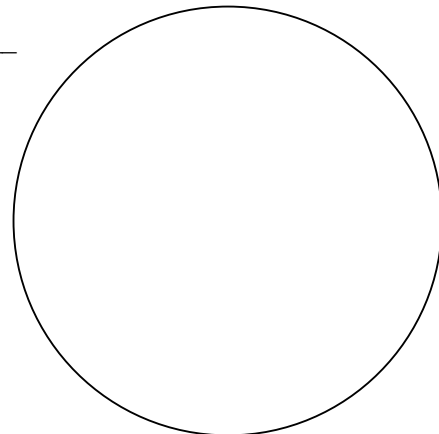
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 83: Rupes Recta

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes



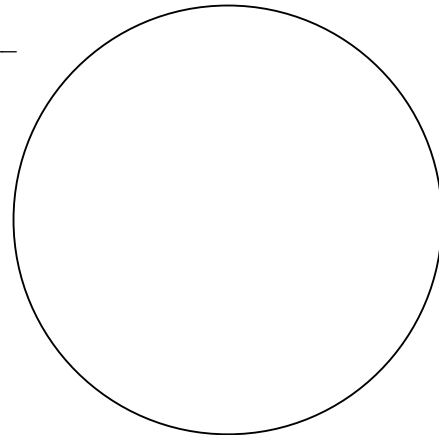
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 84: Mons Pico & Mons Teneriffe

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



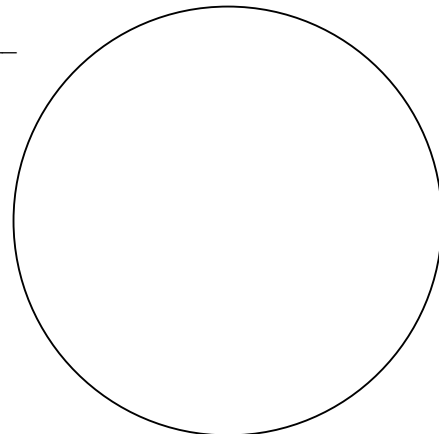
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

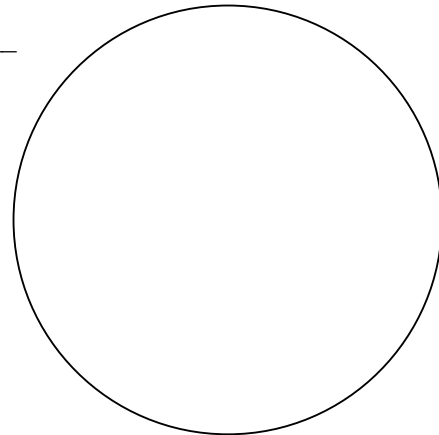
Objective 86: Tycho

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: _____



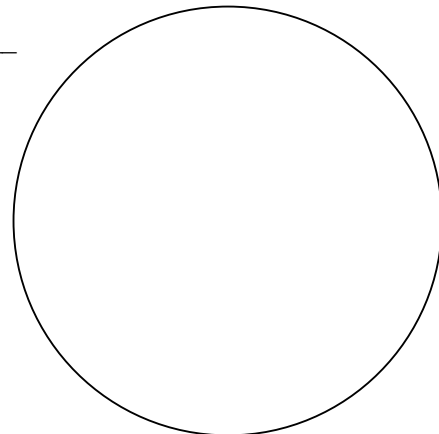
Objective 87: Eratosthenes

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: _____

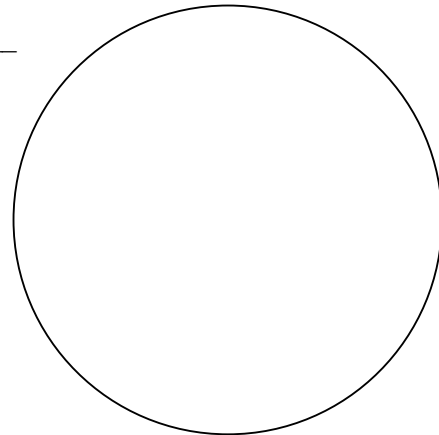


Objective 88: Gauricus & Wurzelbauer

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



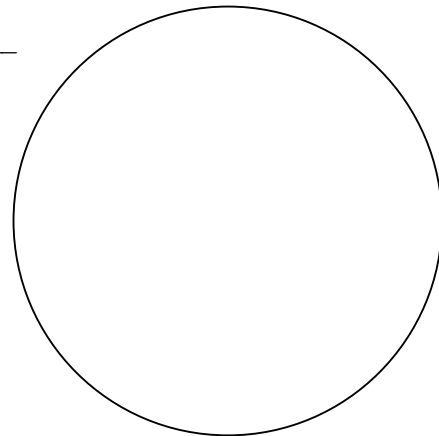
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 89: Timocharus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



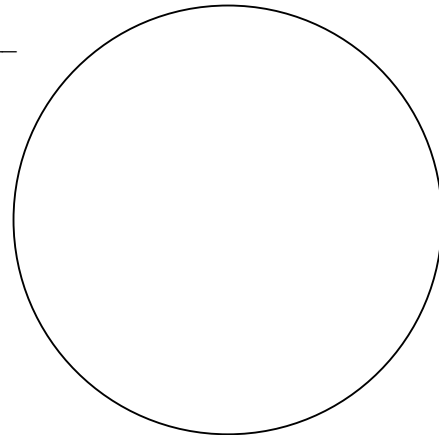
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 90: Pitatus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



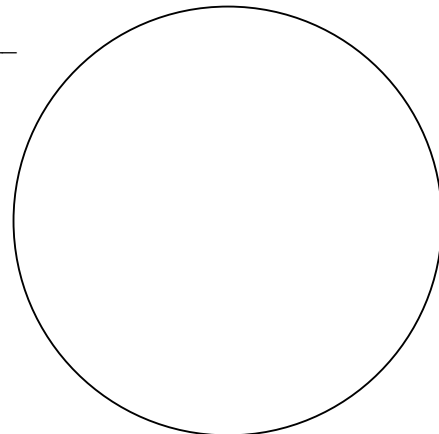
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

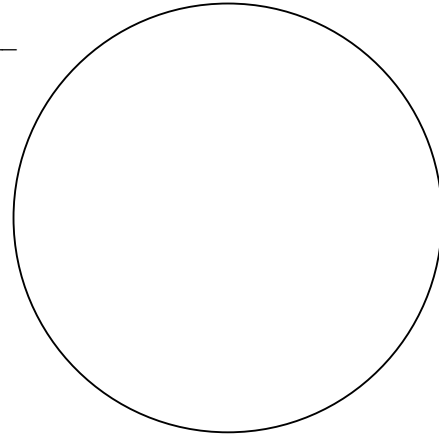
Objective 92: Clavius

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: _____



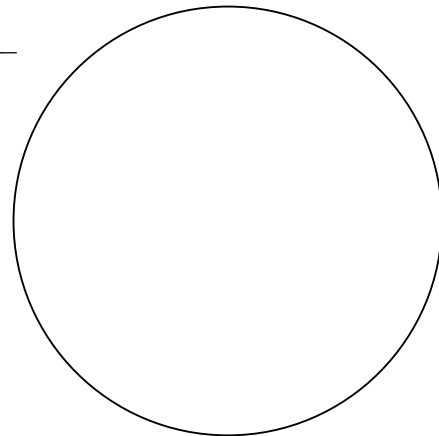
Objective 93: Fra Mauro Formation

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: _____

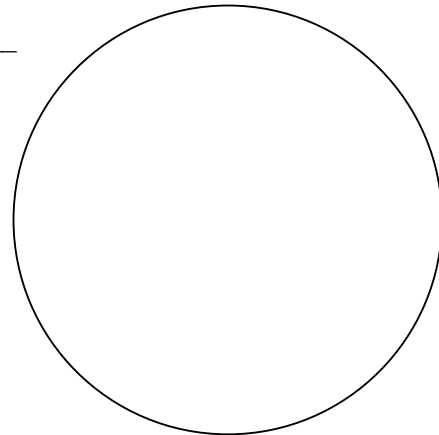


Objective 94: Montes Recti

Required Observations	Date	Time
R1		

Challenge Observations (None)	Date	Time

Notes



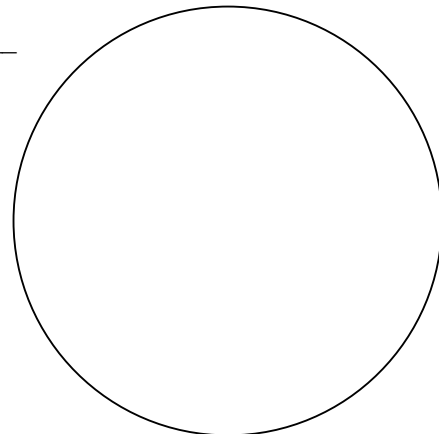
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 95: Copernicus

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



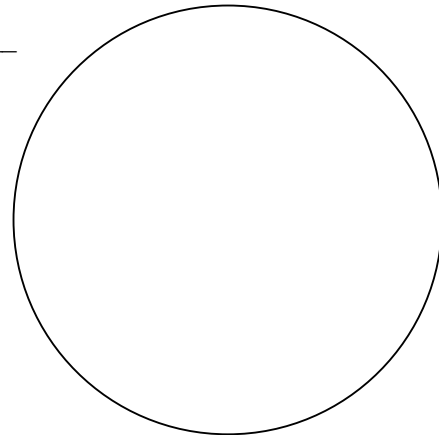
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 96: Mare Imbrium / Eratosthenes / Copernicus System

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations (None)	Date	Time

Notes



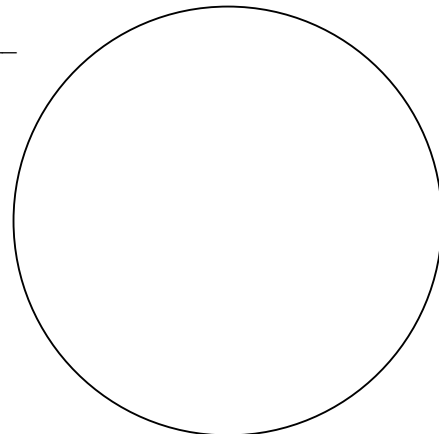
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 97: Wilhelm & Heinsius

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



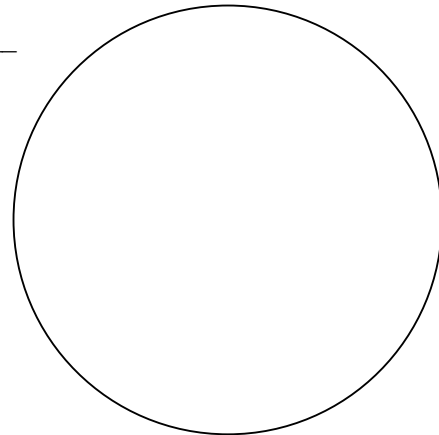
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 98: Blaucanus & Scheiner

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



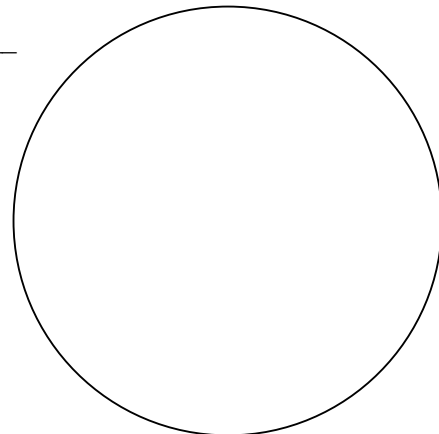
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

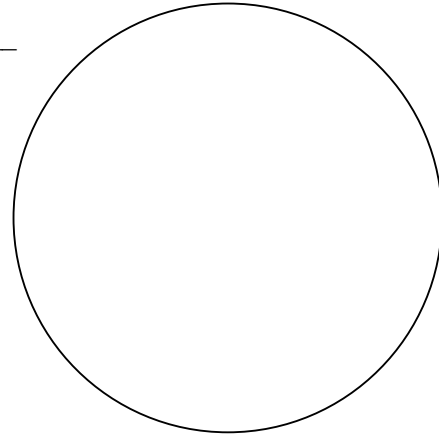
Objective 100: Bullialdus

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: _____



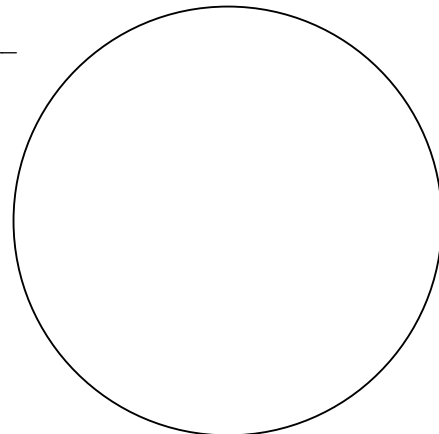
Objective 101: Kies, Mercator, & Campanus

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: _____



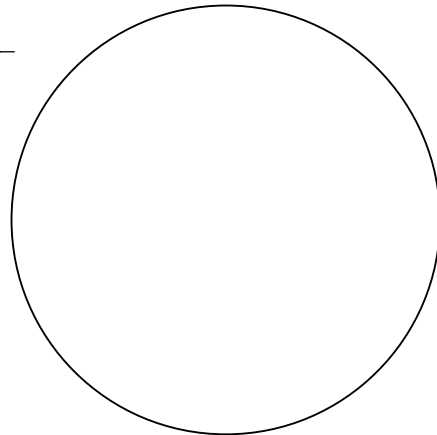
Objective 102: Mare Cognitum & Kuiper

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: _____



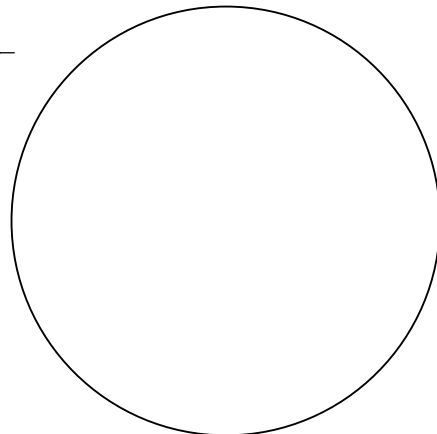
Objective 103: Reinhold & Lansberg

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: _____

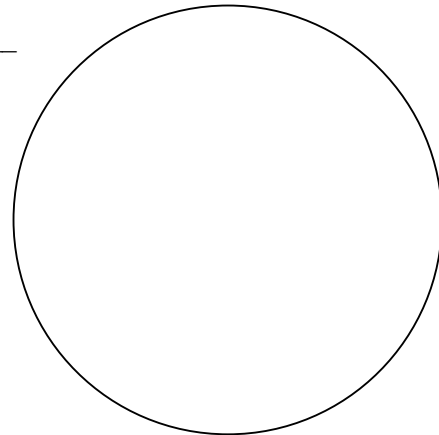


Objective 104: Dorsum Zirkel & Dorsum Heim

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes



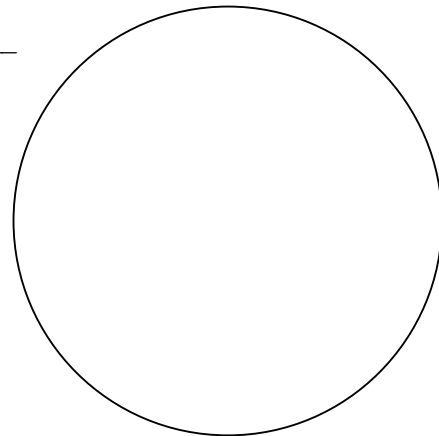
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 105: Montes Carpatus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



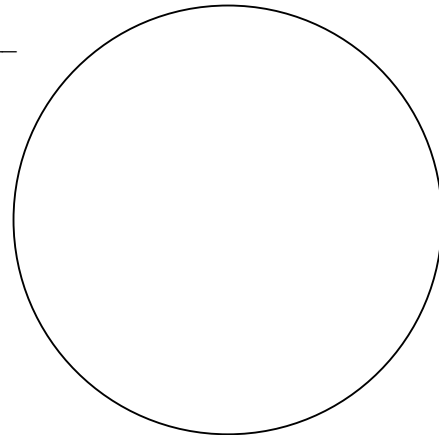
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 106: Sinus Iridum

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		

Notes



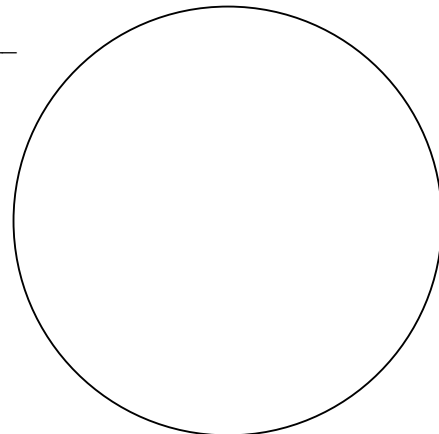
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

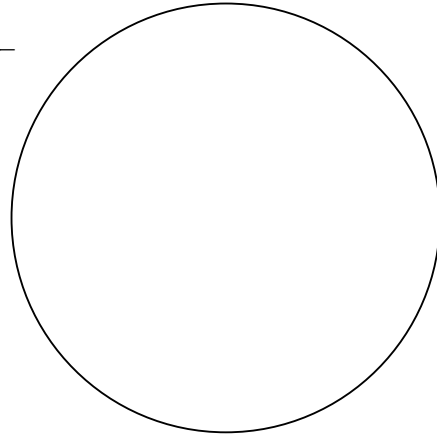
Objective 108: Palus Epidemiarum

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: _____



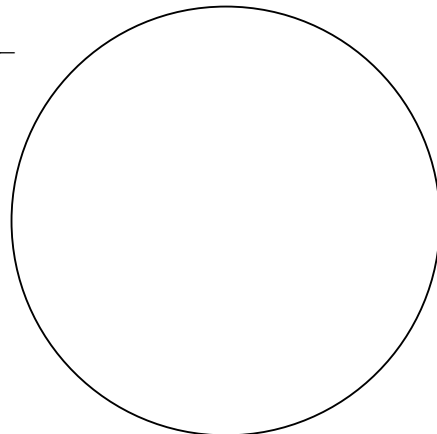
Objective 109: Lacus Timoris

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: _____

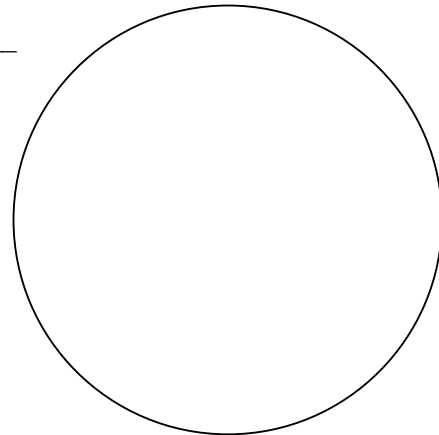


Objective 110: Montes Riphaeus

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



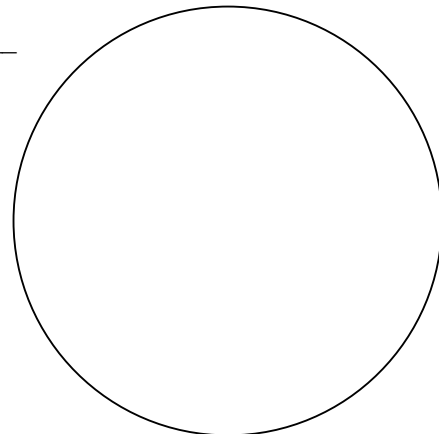
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 111: Hortensius & Hortensius Domes

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



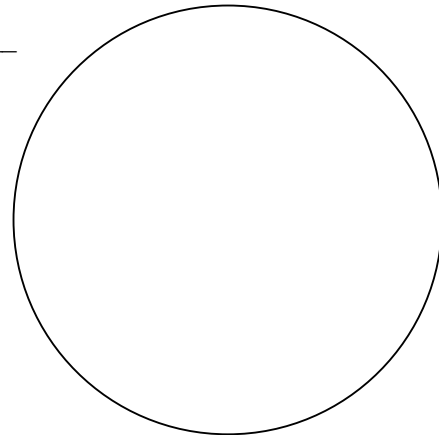
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 112: Mare Insularum Volcanic Complex

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



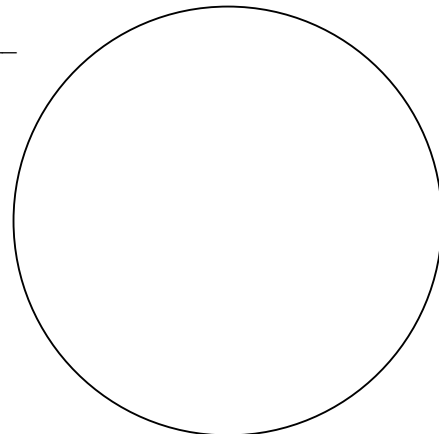
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 113: Promontorium Kelvin & Rupes Kelvin

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		

Notes



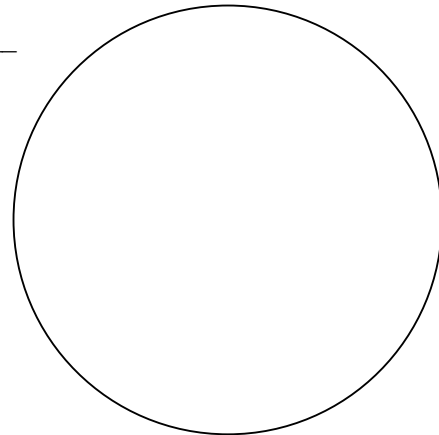
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 114: Mons Delisle & Mons Vinogradov

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



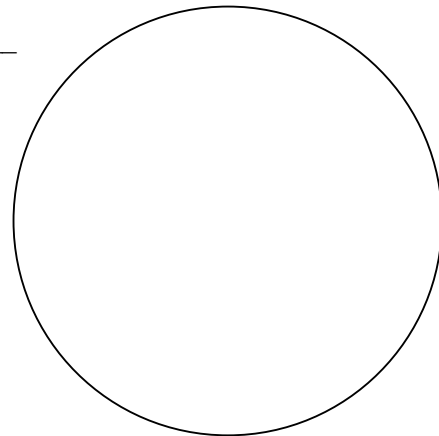
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 115: Kepler & Encke

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



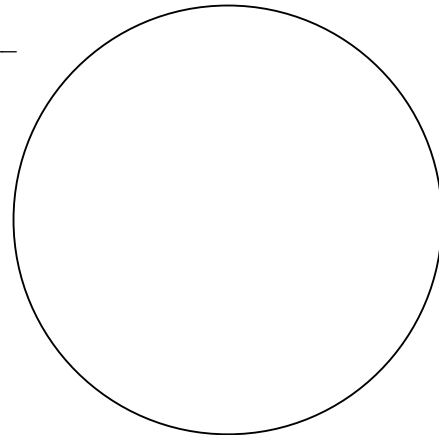
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 116: Gassendi

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



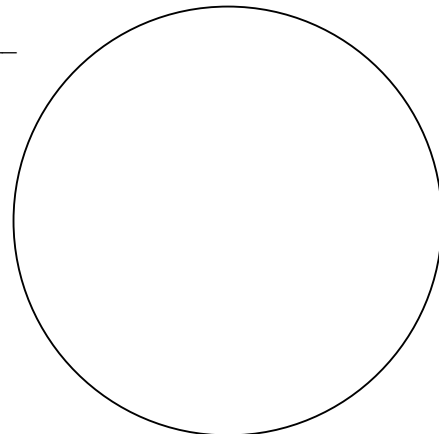
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 117: Mons Gruithuisen Gamma & Delta

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		
C2		

Notes



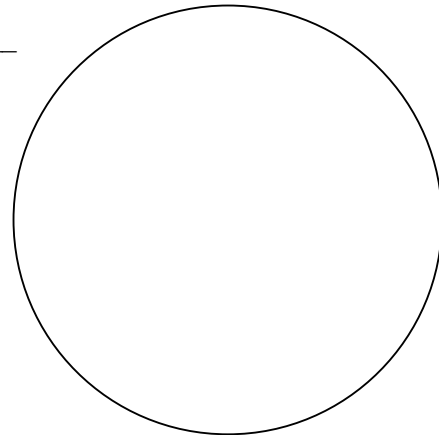
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 118: Schiller & the Schiller-Zucchi Basin

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



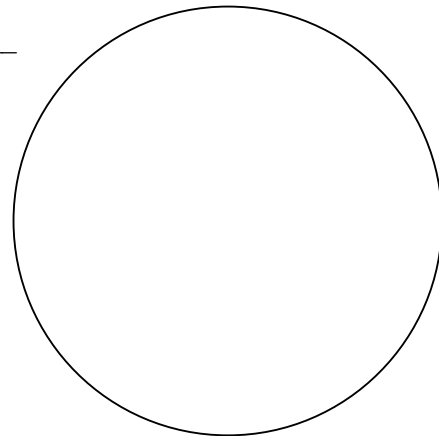
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 119: Montes Harbinger

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



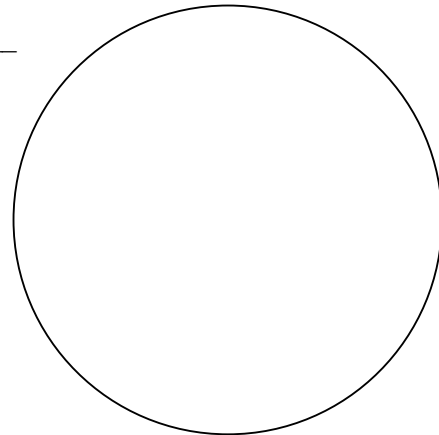
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 120: Letronne & Flamsteed

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



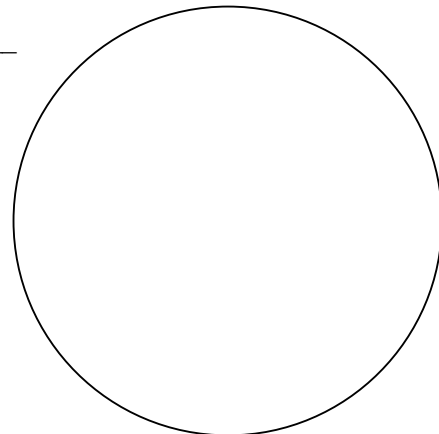
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 121: Rupes Liebig

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



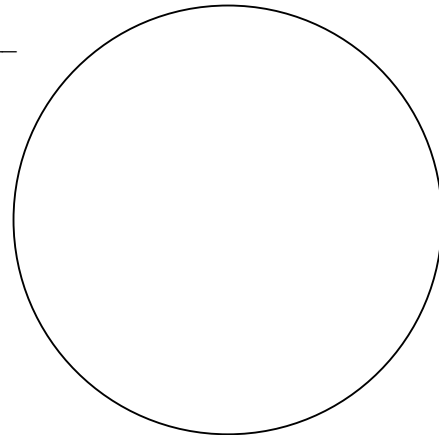
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 122: Aristarchus Plateau & Vallis Schröteri

Required Observations	Date	Time
R1		
R2		
R3		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



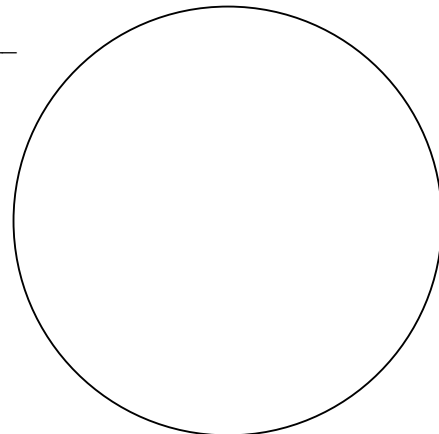
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 123: Mersenius & Rimae Mersenius

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



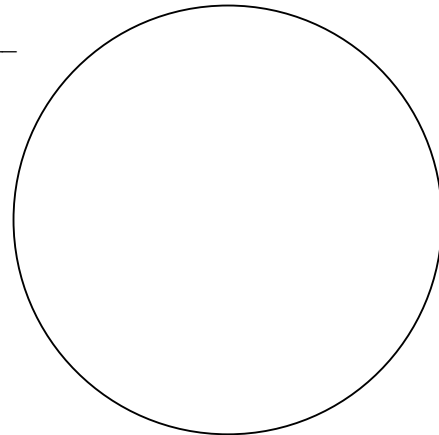
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 124: Billy & Hansteen

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



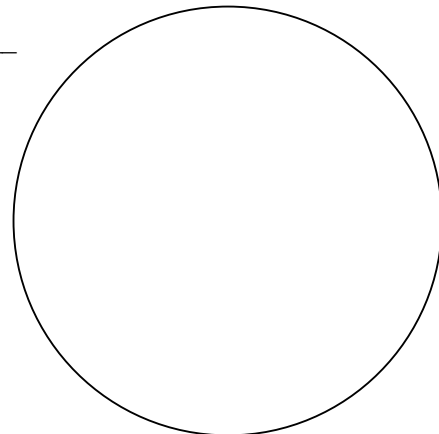
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 125: Zucchius, Bettinus, & Kircher

Required Observations	Date	Time
R1		
R2		

Challenge Observations (None)	Date	Time

Notes



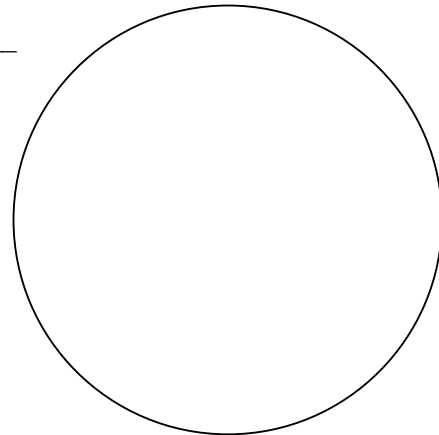
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 126: Marius & Marius Hills

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		
C3		

Notes



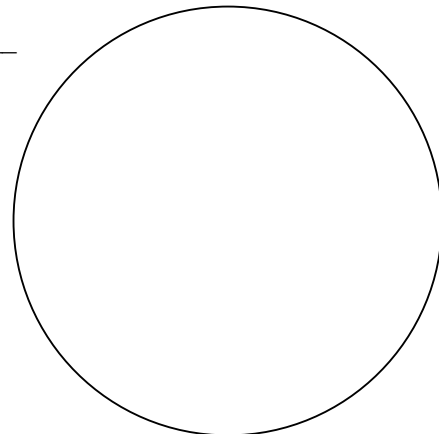
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 127: Schickard & Lacus Excellentiae

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		

Notes



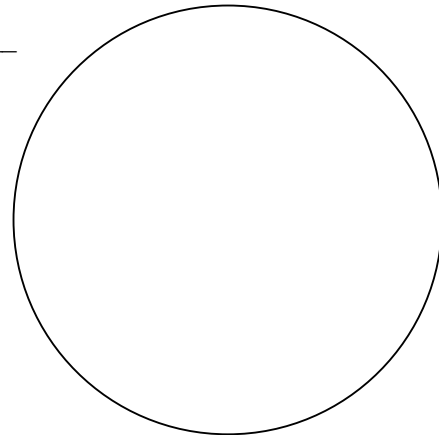
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 128: Vieta & Fourier

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



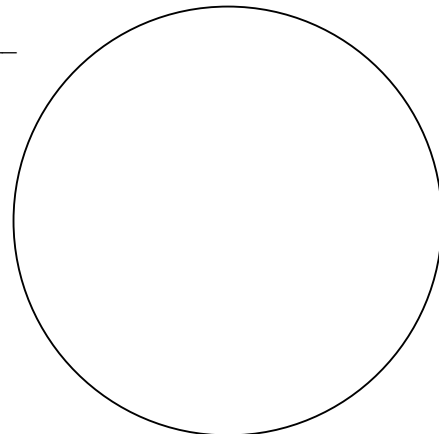
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 129: Phocylides & Wargentín

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



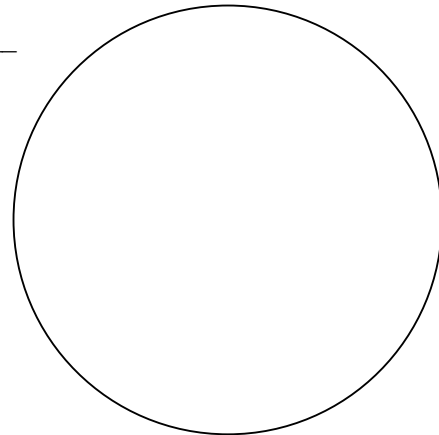
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 130: Mons Rümker

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



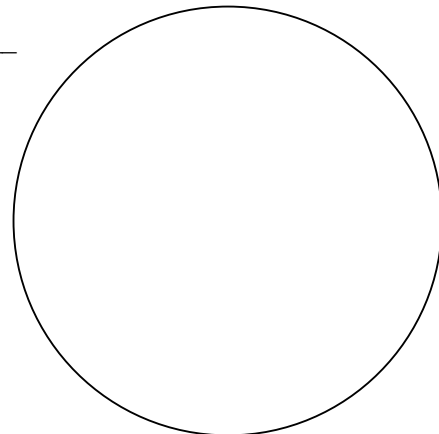
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 131: Reiner Gamma & Galilaei

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		

Notes



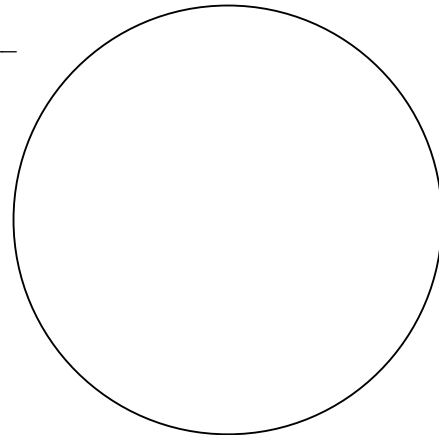
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 132: Sirsalis & Rimae Sirsalis

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		
C2		

Notes



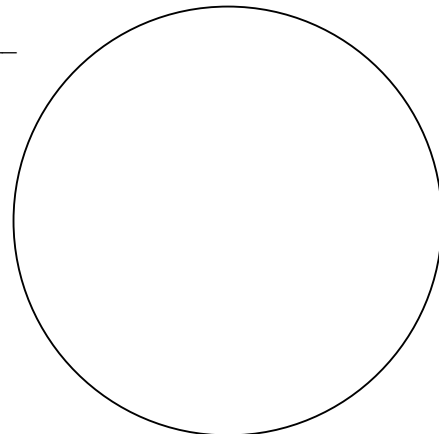
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 133: Pythagoras, Harpalus, & Bouguer

Required Observations	Date	Time
R1		
R2		
R3		
R4		

Challenge Observations	Date	Time
C1		
C2		

Notes



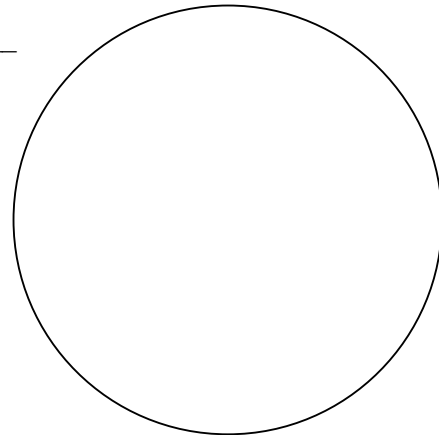
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 134: Grimaldi

Required Observations	Date	Time
R1		

Challenge Observations	Date	Time
C1		

Notes



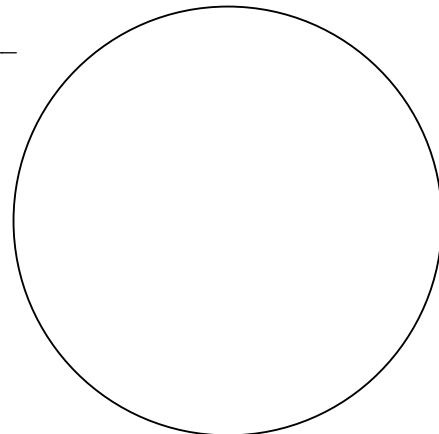
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective 135: Lacroix & Southwestern Limb Region

Required Observations	Date	Time
R1		
R2		

Challenge Observations	Date	Time
C1		

Notes



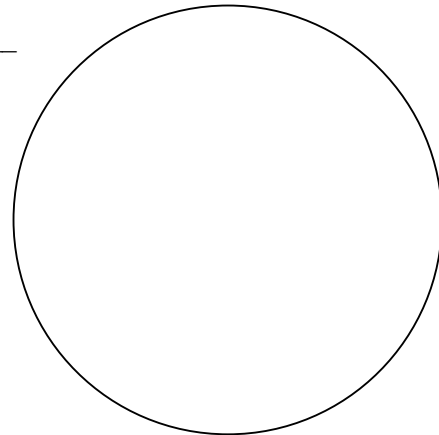
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L1: Mare Australe

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



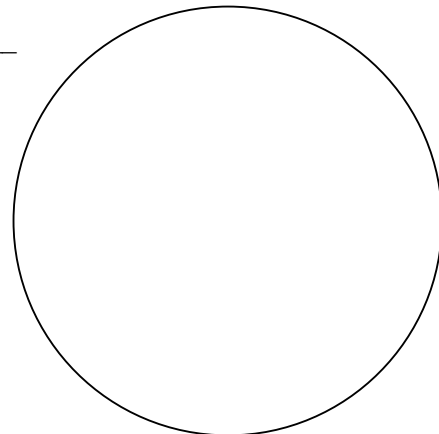
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L2: Mare Marginis

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



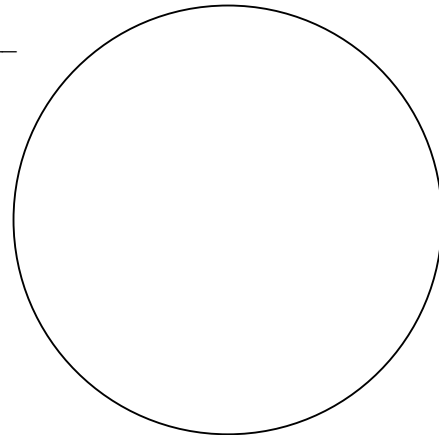
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L3: Mare Smythi

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



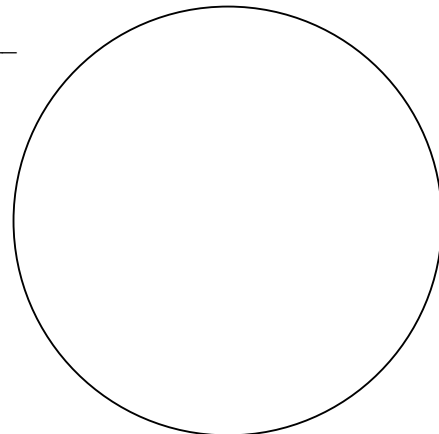
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L4: Hubble

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



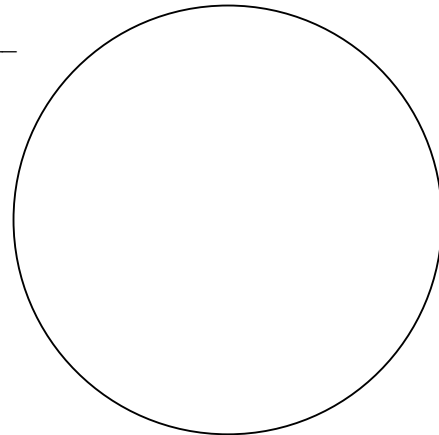
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L5: Gartner & Democritus

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



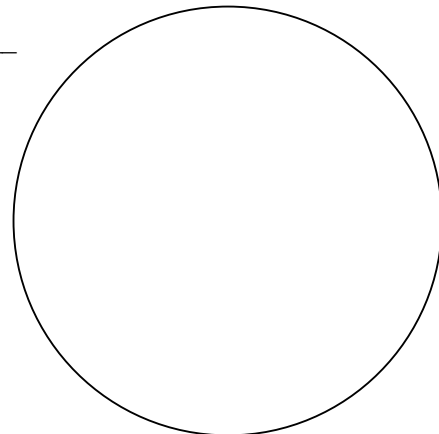
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L6: Markov

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



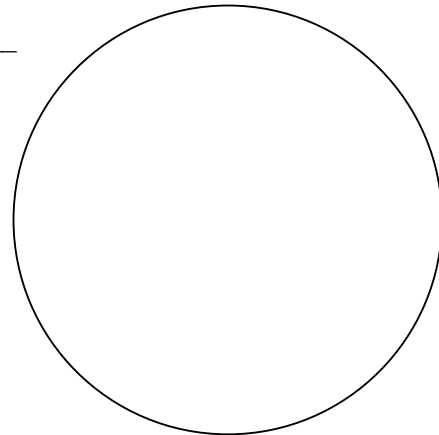
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L7: Seleucus

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		

Notes



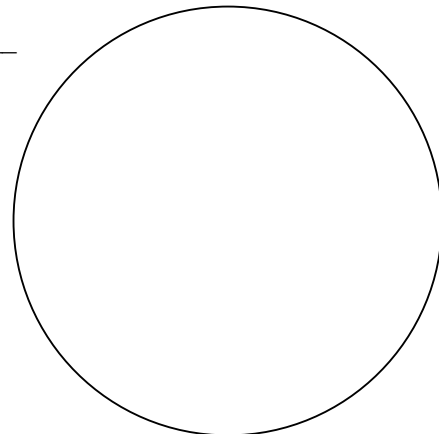
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L8: Bailly

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		
C2		

Notes



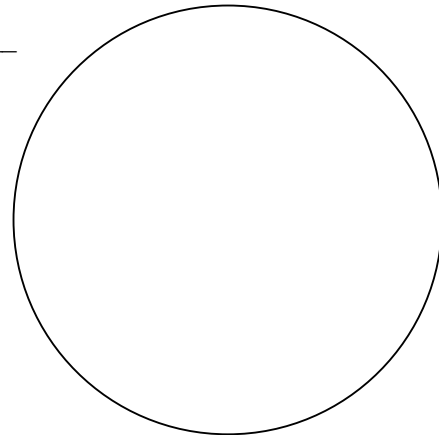
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

Objective L9: Ulugh Beigh & Aston

Optional Challenge Objective	Date	Time

Challenge Observations	Date	Time
C1		
C2		

Notes



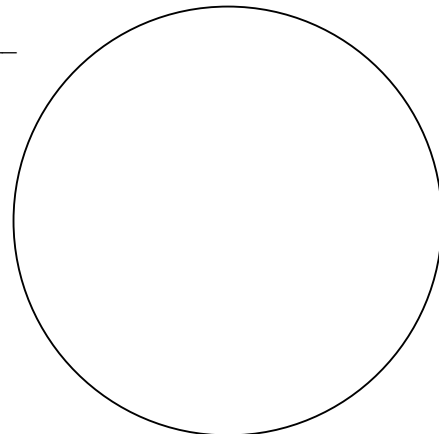
Seeing: 1 2 3 4 5
 Transparency: 1 2 3 4 5
 Telescope: _____
 Magnification: _____

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: _____

