

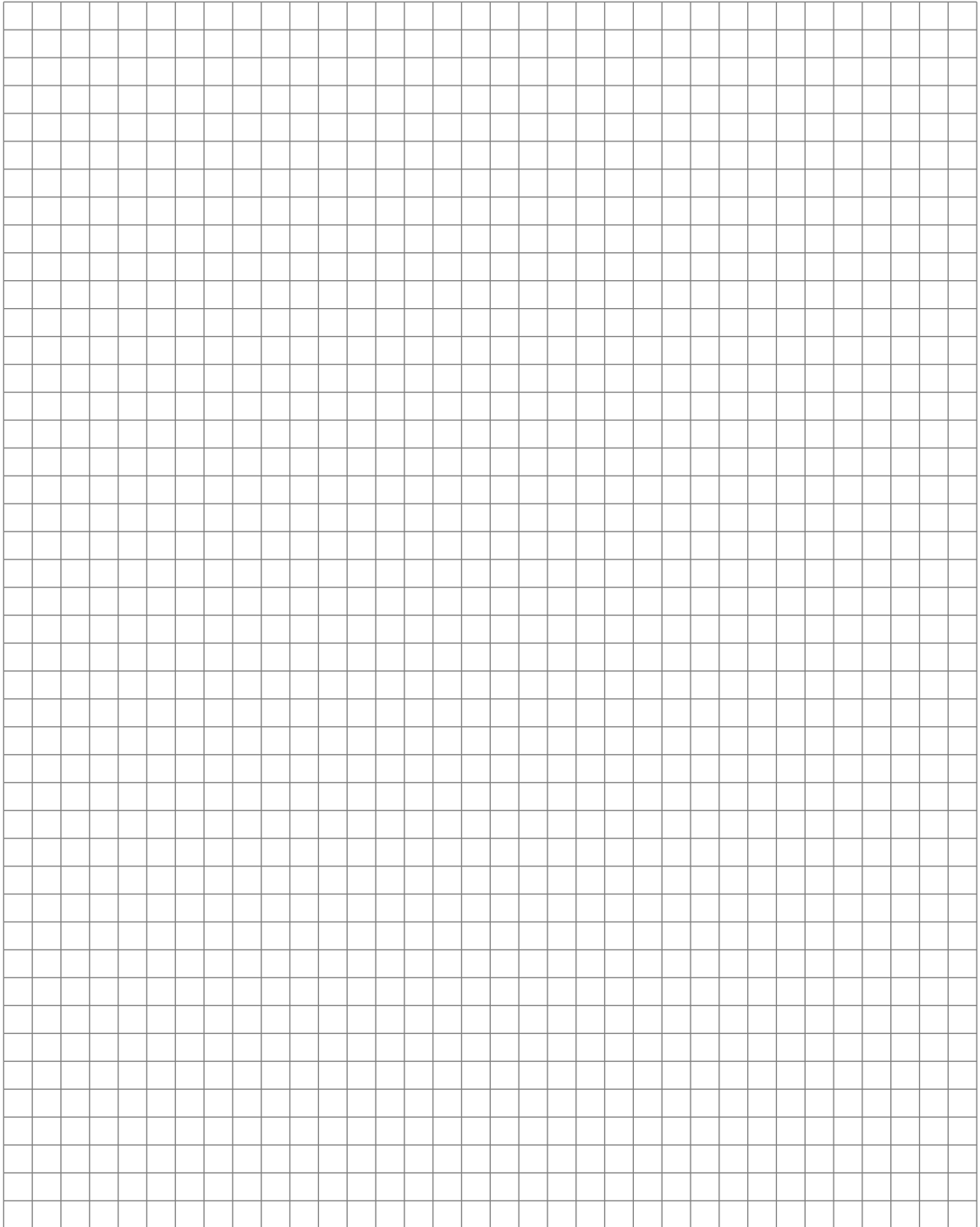
Name:

Answer Sheet for Question 1a: *You can write your answers down here:*

Answer table for Q1a:

Time since explosion (days)	Flux ($\text{erg s}^{-1} \text{cm}^{-2}$)	$\log t$ [days]	$\log L$ [$\text{erg s}^{-1} \text{cm}^{-2}$]
5.3	7.11×10^{-13}		
10.9	4.98×10^{-13}		
15.0	2.54×10^{-13}		
16.2	2.85×10^{-13}		
24.5	1.66×10^{-13}		
34.8	1.31×10^{-13}		
43.2	1.02×10^{-13}		
55.0	7.50×10^{-14}		
85.4	5.50×10^{-14}		

Name:
Grid paper provided for Question 1a:



Name:

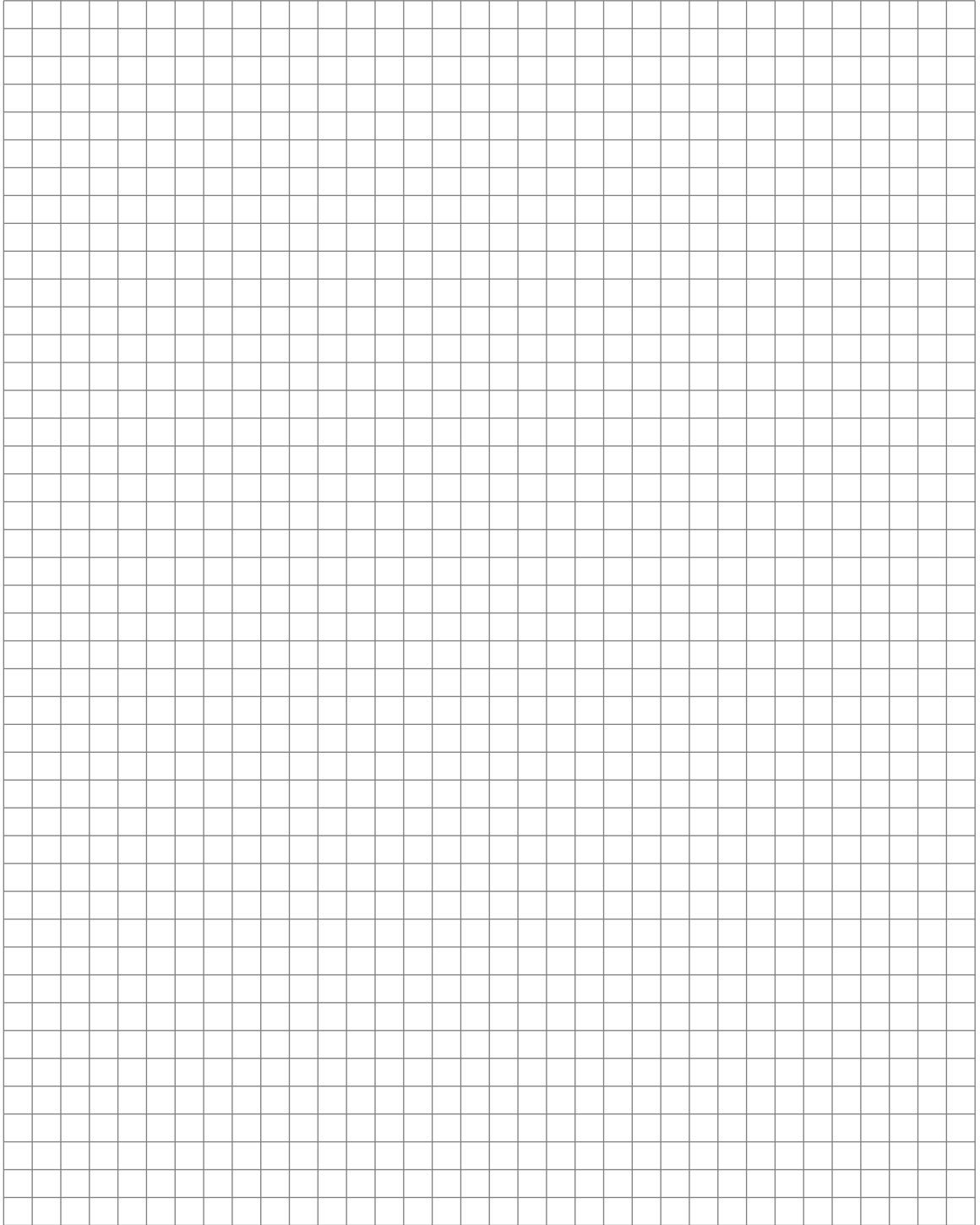
Answer Sheet for Question 1b and 1c: *You can write your answers down here:*

Answer table for Q1b and 1c:

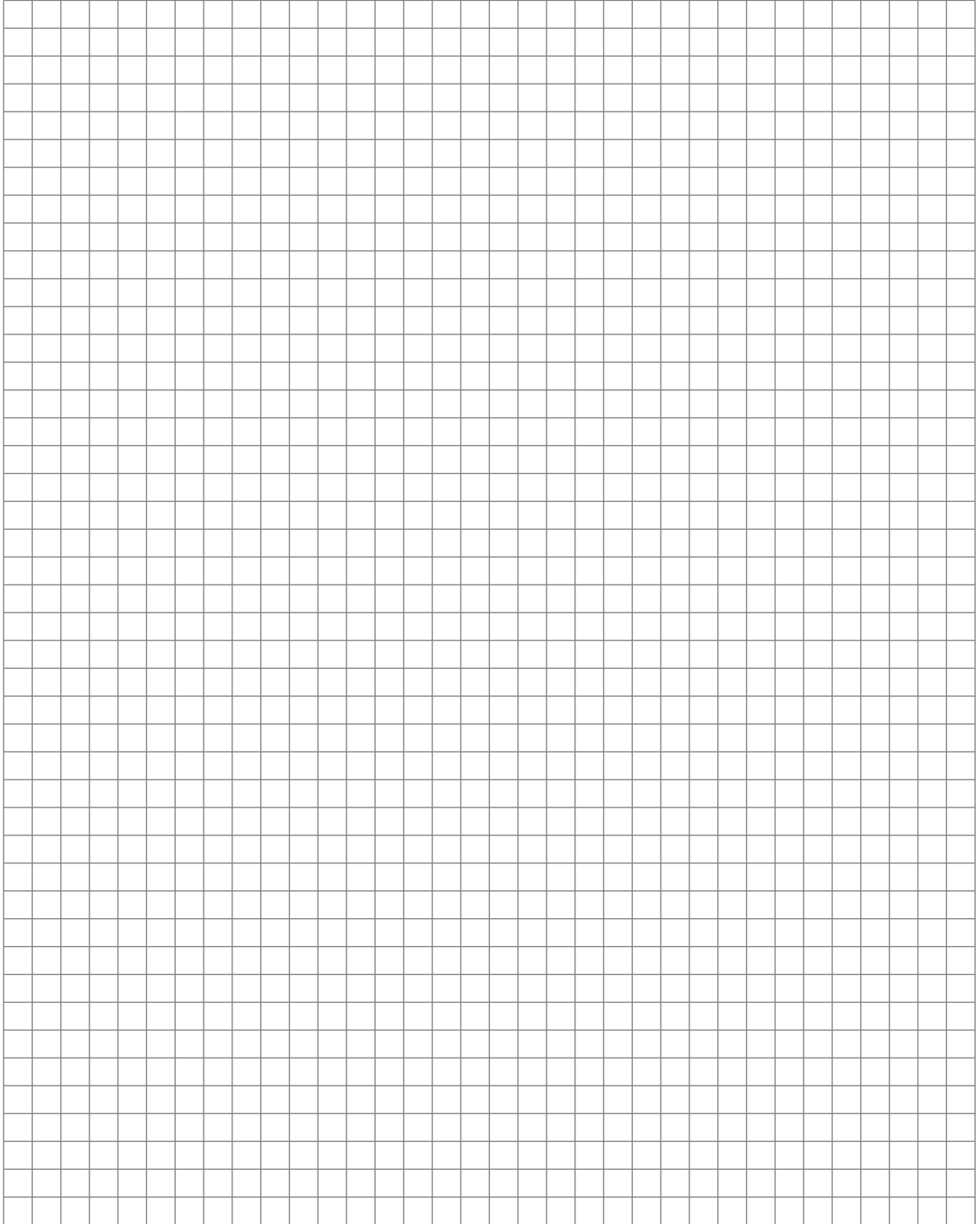
You do not need to fill all columns, but R_{shock} , ρ_{CSM} and $\dot{M}$ ($M_{\odot} \text{ yr}^{-1}$) must be filled

t (days)	EM (cm^{-3})	R_{shock} (cm)	$\log R_{\text{shock}}$	V_{FS} (cm^3)	ρ_{CSM} (g cm^{-3})	$\log \rho_{\text{CSM}}$	$\dot{M}$ ($M_{\odot} \text{ yr}^{-1}$)
5.3	2.75×10^{62}						
10.9	9.31×10^{61}						
15.0	6.08×10^{61}						
16.2	4.76×10^{61}						
24.5	3.76×10^{61}						
34.8	1.84×10^{62}						
43.2	1.07×10^{62}						
55.0	2.80×10^{61}						
85.4	2.16×10^{61}						

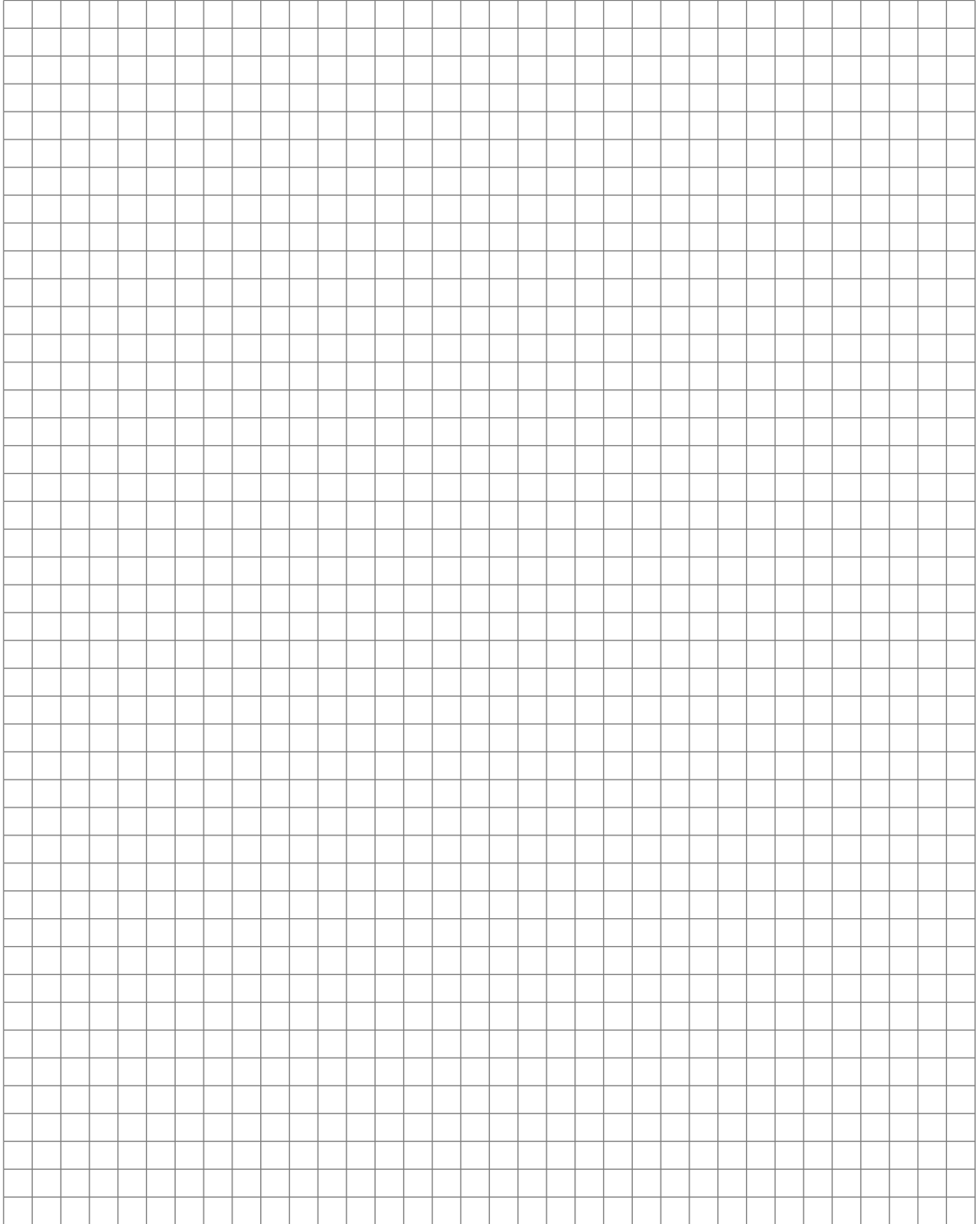
Name:
Grid paper provided for Question 1b:



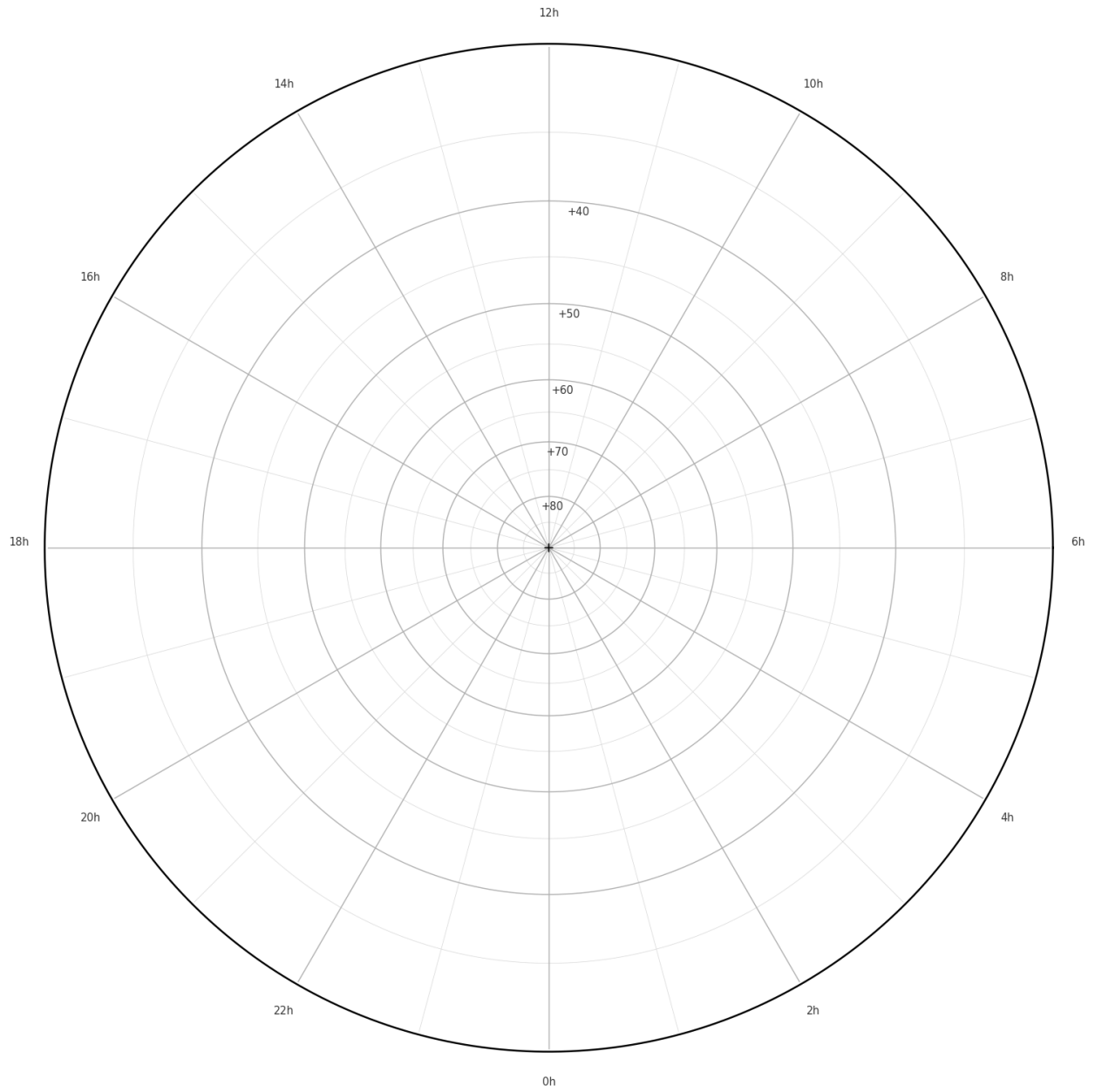
Name:
Grid paper provided for Question 2a:



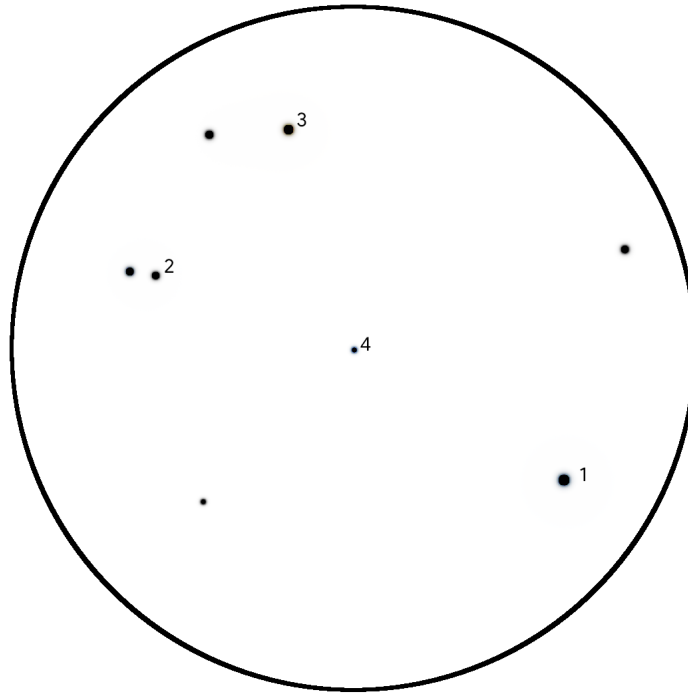
Name:
Grid paper provided for Question 2b:



Name:
Gnomonic grid paper provided for Question 2c:



Name:
Answer Sheet for Question 3:



(a) **(16 points)** Did you mark and label the orientation of the telescope?

(b) **(10 points)** What is the estimated magnitude of Star 3?

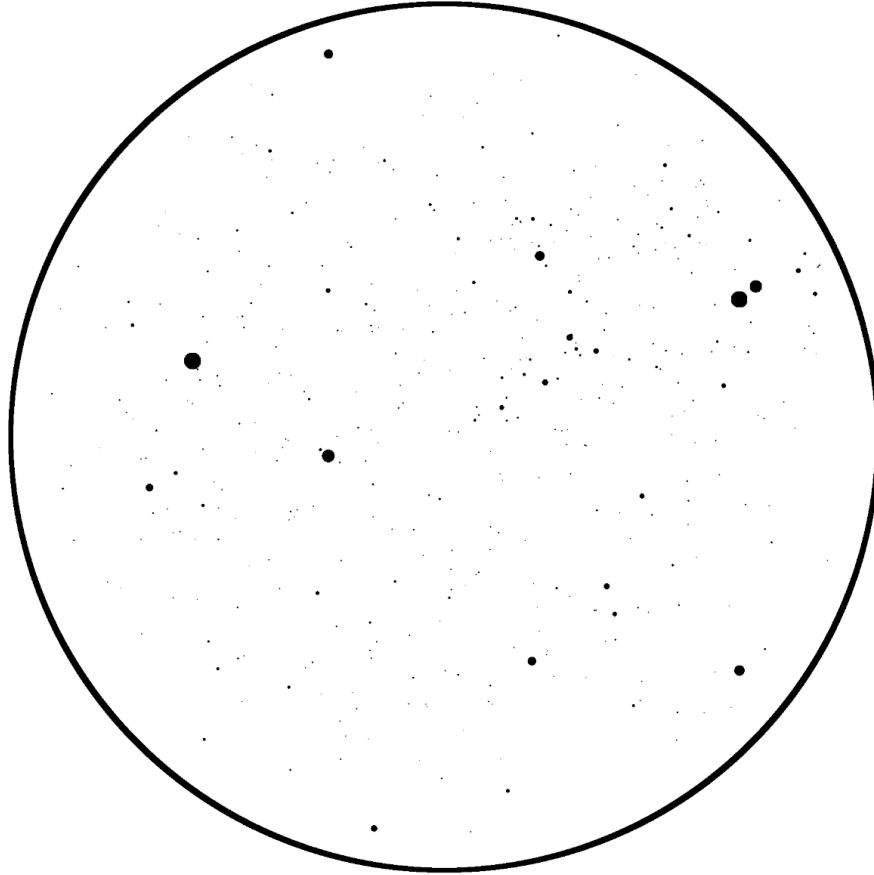
Write your answers down here

(c) **(20 points)** What is the telescope's FoV in degrees? (please answer in 3 or 4 significant figures)

Write your answers down here

Name:

Answer Sheet for Question 4:



- (a) **(12 points)** List out 6 constellations above the Horizon.
- (b) **(8 points)** Mark and label two out of three poles (North/South): Celestial, Ecliptic, or Galactic (pick two).
- (c) **(10 points)** What is the estimated latitude of the island? *Hint: the projection is azimuthal equidistant*
Write your answers down here
- (d) **(8 points)** Mark and label the four cardinal points.
- (e) **(8 points)** Draw and label two out of three planes: Celestial Equator, Ecliptic, or Galactic (pick two).
- (f) **(3 points)** Are there any planets seen in the sky? If yes, mark and label the planets.
- (g) **(5 points)** Mark and label: M4 and M13 (pick one).