13th Singapore Astronomy Olympiad

Observation Round

14 March 2026

Instructions

1. The Observation portion of this Olympiad is worth a total of **36 marks**.
2. When asked to do so, check that you have **6** printed pages.
3. Write your answers and workings clearly on the answer sheets provided.
4. Submit all used answer sheets.
5. Fill in these details on each side of your answer sheet:
   - Year of competition
   - Your participant code
   - The page number – which should be continuous from 1 to N
   - The question number
6. Cross out all workings or answers you do not wish to be evaluated.
7. If you require assistance, please get the attention of the invigilators.

Competition Rules and Regulations

1. Only the use of scientific calculators is permitted. No graphing or programmable calculators are allowed.
2. Disruptive behaviour, cheating, collusion to cheat or any integrity-related offences are grounds for immediate disqualification.
3. You may retain the question paper and constants sheet for personal use. Return all unused answer sheets to the Organising Team.

The 13th Singapore Astronomy Olympiad is jointly organised by Astronomy.SG and the NTU Astronomical Society.

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1 Hidden Treasure [20]

This section is a practical component that involves the handling of telescopes. You will have 10 minutes to complete this section. Please proceed to the designated station to attempt this section.

At the designated station, you will be provided with a telescope. You are expected to use the telescope to locate 5 images. Each image contains a circled DSO as well as a label. The label corresponds to one of the 5 circled DSOs but it may not be the same DSO circled in the photo.

Note that the FOV for each image may differ dramatically, and that the 5 DSOs correspond to an object type of a galaxy, a globular cluster, an open cluster, a planetary nebula, and a diffuse nebula respectively.

A:
Messier 57

B:
Messier 8

C:
Caldwell 94

D:
Messier 33

E:
Caldwell 104

2 Seeing Stars [16]

This section is a practical component that will require you to find two objects using the Oculars mode of Stellarium. You will have up to 8 minutes in total to complete this section. Please proceed to the designated station to attempt this section.

Two separate finder charts [Figure A and Figure B] are provided to you below. These finder charts provide finding instructions to a separate emoji that will be visible on Stellarium's Ocular view.

You have 4 minutes to follow the instructions on each finder chart via the Ocular view on Stellarium to find the final emoji located at the endpoint.

For each finder chart, there are a total of 4 checkpoints. If you think you have found a checkpoint, let the invigilator know to confirm before moving on to the next checkpoint.

You may only attempt each finding chart once and only once. In other words, should you lose track of your bearings in the night sky, the invigilator will NOT help you return to the starting point.

Note that the orientation on the finder chart may be different from the orientation of the stars shown on the laptop.

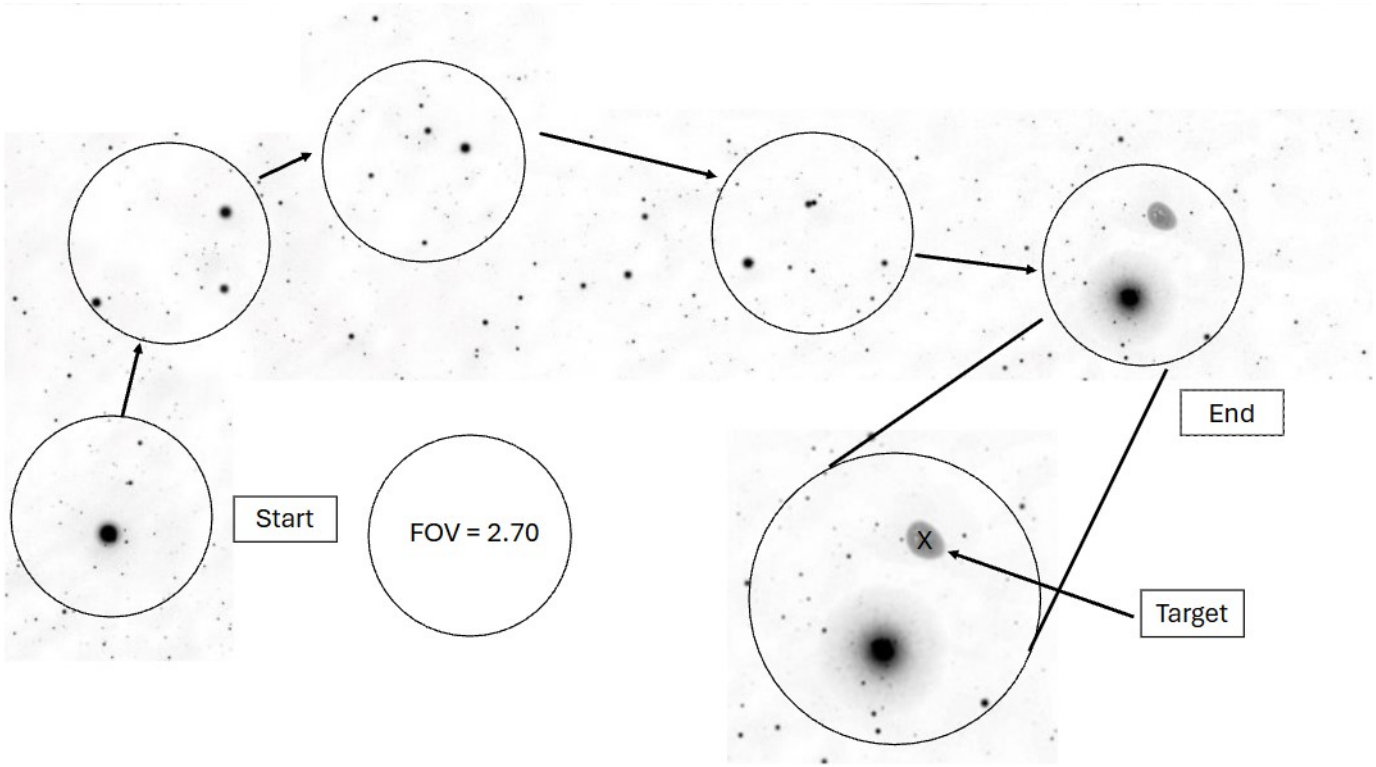

Figure A

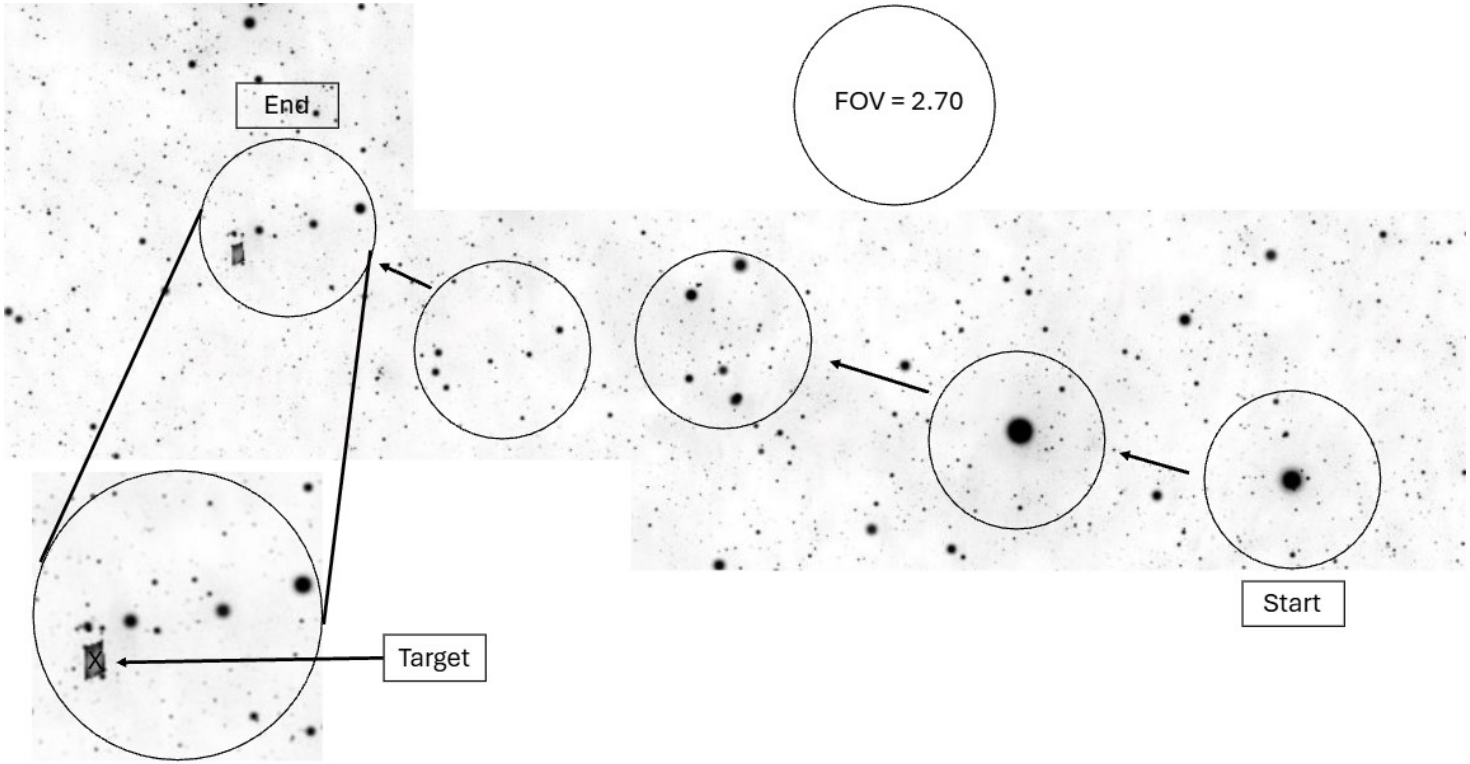

Figure B