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# Instructions

1. This part of the exam consists of 3 problems (O5, O6 and O7), and is worth a total of 70 points.
2. At the end of the examination, hand over the envelope to the supervisor at the test station.
3. You have 5 minutes inside the corridor to read the problems and study the given star charts and then you have 10 minutes outside to complete these problems.
4. Stop working once the timer expires.
5. You will use a telescope to observe the starry sky. The telescope is equipped with one eyepiece, but no finderscope.
6. You will be given 2 star charts before the examination. You should read these star charts to know which star is  $\gamma$  Andromedae, and which star is  $\delta$  Cygni.

**O5. (10 points) The eyepiece's field of view is  $45^\circ$ . Please estimate the field of view (with an accuracy of  $0.1^\circ$ ) of your telescope for your observation.**

*Answer:*

**O6. (35 points) Figure 1 is a detailed star chart near  $\gamma$  Andromedae. Please draw a cross (X) on the map at the location of  $\gamma$  Andromedae, and mark North on the star chart with “N”.**

**O7. (25 points) Figure 2 is a detailed star chart near  $\delta$  Cygni. Please draw a cross (X) on the map at the location of  $\delta$  Cygni.**



Figure 1

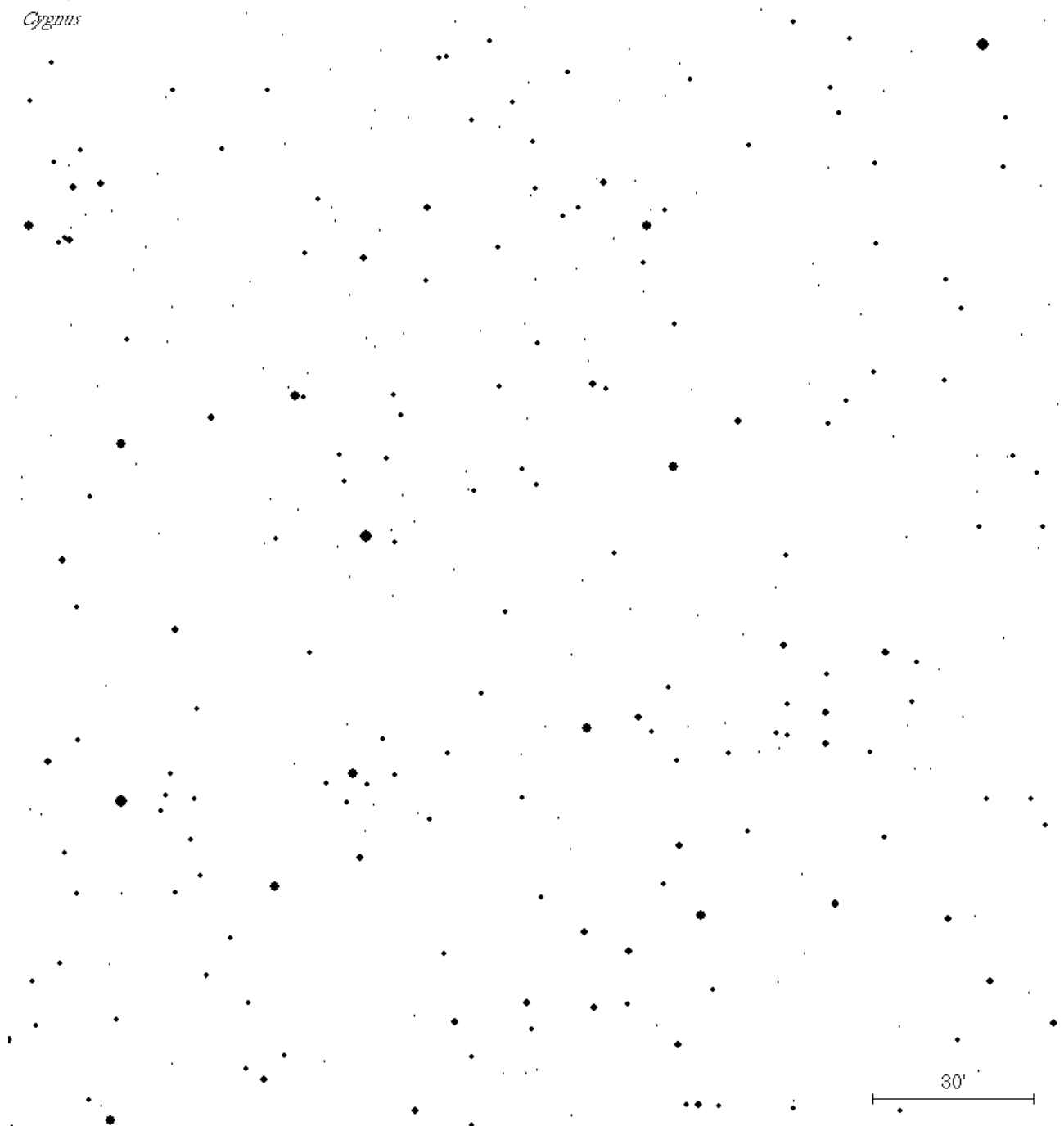


Figure 2