Telescope Information	
Eyepiece's field of view	45º
Eyepiece's focal length	25 mm

O1 (15 points)

Time available: 5 min

Your task is to identify the circled objects in the images that you will see through the telescopes (numbered 1-5). The images are posted in the windows of the academic building and the telescopes are already pointed to each image. A single object will be marked on each board. For each object in the list below, if it was marked on one of the boards, write the corresponding telescope number in the list. You will get 30 seconds per telescope.

Object	Number	Object	Number
Jupiter		β Her / Antilicus	
Saturn		α Oph / Rasalhague	
Mars		ϵ Peg / Enif	
α And / Alpheratz		α Per / Mirfak	
α Aql / Altair		α Sco / Antares	
α Boo / Arcturus		α Ser / Unukalhai	
α CrB / Alphecca		ϵ Sgr / Kaus Australis	
β Dra / Rastaban		β UMi / Kochab	

O2 (15 points)

Time available: 4 min

Determine the field of view FOV of the given telescope using the 25 mm eyepiece.
Show your calculations for the method used.

O3 (6 points)

Time available: 2 min

Using the result from problem O2, determine the focal length of the telescope. Assume the apparent field of view of the 25 mm eyepiece is 45 degrees.

Show and explain your calculations.

O4 (14 points)

Time available: 4 min

β Cyg (Albireo) is a visual binary star. You will be shown a picture a this binary system from one of the windows of the building nearby. Aim the telescope at this picture, and estimate the acute angle between horizon and the line going through systems' stars.