



*Please write ONLY on this side of the paper*

You have 50 minutes to finish this part.

Please use only the pencil to make the drawings and mark-ups.

After you finish the work fill your student ID on the answer sheet as well on the sky map.

Put the 2 papers in the folder, leave on the table the compass, the ruler and the pencil.

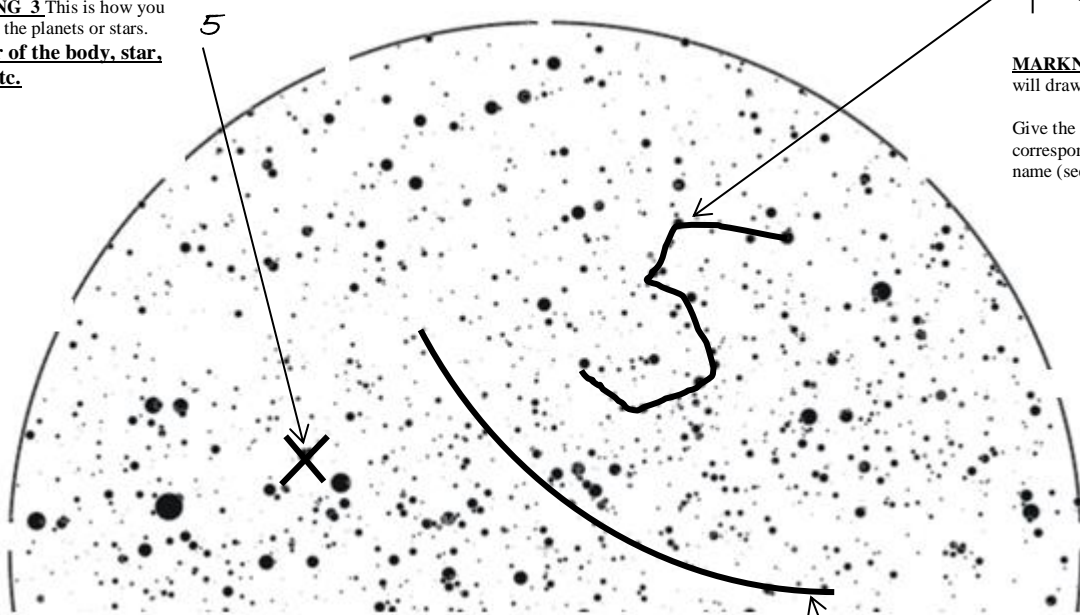
Thank you!

In this part you will use the sky-map found in the envelope. Please use the pencil for marking and drawing lines on the sky-map. Use the indication 1, 2 and 3 to draw lines and mark objects on the map, as seen in the figure bellow.

The map is in azimuthal projection (distance from the centre is in proportion to zenith distance) .

HOW TO DRAW AND MARK ON  
THE SKY-MAP

**MARKING 3** This is how you will mark the planets or stars.  
Number of the body, star, planet etc.



IAU code

**MARKING 2** This is how you will draw the constellations.  
Give the IAU code that corresponds to the constellation name (see table 1)

**Mark code**

**MARKING 1** This is how you will draw the curves/lines and indicate what it represents



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**Question**

The map represents the sky in somewhere in Romania. The Zenith point is in the centre of the chart.

1. Find out the latitude of place where map have been done.

**Latitude of place:**

Draw the greatest circumpolar circle (**Mark A**) (**on map**).

2. Draw on the map with continuous lines the celestial equator (**Mark B**), the ecliptic(**Mark C**), the galactic equator (**Mark G**), and the local meridian (**Mark M**),.
3. Mark on the map the cardinal points (**N,S,E,W**) and show 3 planets (**P1, P2, P3**) from the Solar System.
4. Identify and mark on the map the 5 brightest stars (magnitude less +1,00). Number the star starting from **1** – the brightest, and continue with the fainter ones till number **5** for the faintest. Fill in the following table the Bayer name of the five identified stars

Marking on the map	1	Name of the star	
	2	Name of the star	
	3	Name of the star	
	4	Name of the star	
	5	Name of the star	

5. Draw on the map 10 constellations you can identify. Each constellation you found, it will be identified on the map after the letters (IAU code) corresponding to its name in table 1.
6. Mark on the map the positions of the following objects:
  - a. The following Messier objects: M31, M27, M15;
  - b.  $\beta$  Cet,  $\delta$  UMi

<b>Marking on the map</b>	<b>6</b>	<b>M31</b>
	<b>7</b>	<b>M27</b>
	<b>8</b>	<b>M15</b>
	<b>9</b>	<b><math>\beta</math> Cet,</b>
	<b>10</b>	<b><math>\delta</math> UMi</b>



OBSERVATIONAL  
ROUND

Blind map  
Answer sheet

STUDENT ID	
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7.

Estimate the sidereal time of the map; write the value in the box

8.

Estimate the equatorial coordinates of the star Altair ( $\alpha$  Aquilae). Write your answer in the box