iGeo

14th International Geography Olympiad

FIELDWORK EXERCISE 1

General instruction and notes

Student number

1	4			

Belgrade, 2017

"Geography is learned on foot"
Jovan Cvijić (1865—1927),
founder of geography in Serbia

IGEO-2017 FIELDWORK DAY1 GUIDANCE

Before you start the Fieldwork Exercise, please read the following notes carefully and follow the instructions. Fieldwork Exercise 1 consists of three parts – A, B and C. Parts A and B should be completed on the route, moving from the Stop 1 (**S1**) to the Stop 2 (**S2**) and Stop 3 (**S3**). Part C will be completed at Stop 4 (**S4**). The route and all stops are located in the Košutnjak Park of Belgrade (see map).

During Fieldwork Exercise 1 you also need to make some general observations, which are important for tomorrow's Fieldwork Exercise 2. For notes, use the General Notes sheet when you visit the Stops. Keep this sheet with you at all times, and hand it in to the Jury ONLY at the last Stop (finishing point) of your route. Tomorrow you will get it back before Fieldwork Exercise 2.

All tasks are individual, and you are expected not to consult each other. However, you will move within the area in groups of 26—27 students, each guided by 2 volunteers. Do not attempt to change groups. Remain with your group, follow your volunteers and keep the same speed as them. Obey instructions of volunteers and Jury members all the time. If you have any sort of emergency, please tell volunteers.

Start points:

- **Groups I—III** start from S1**.** Total time for route S1—S2 is **1 hour**, S2—S3 also **1 hour.** After S3 groups I—III will head to S4, where they spend **15 minutes**.
- **Groups IV—VI** start from S4, where they spend **15 minutes**, and then head to S1—S2—S3.
- All the groups will start with an interval of **15 — 20 minutes**.

Finish points:

- S4 for **groups I—III,**
- S3 for **groups IV—VI.**

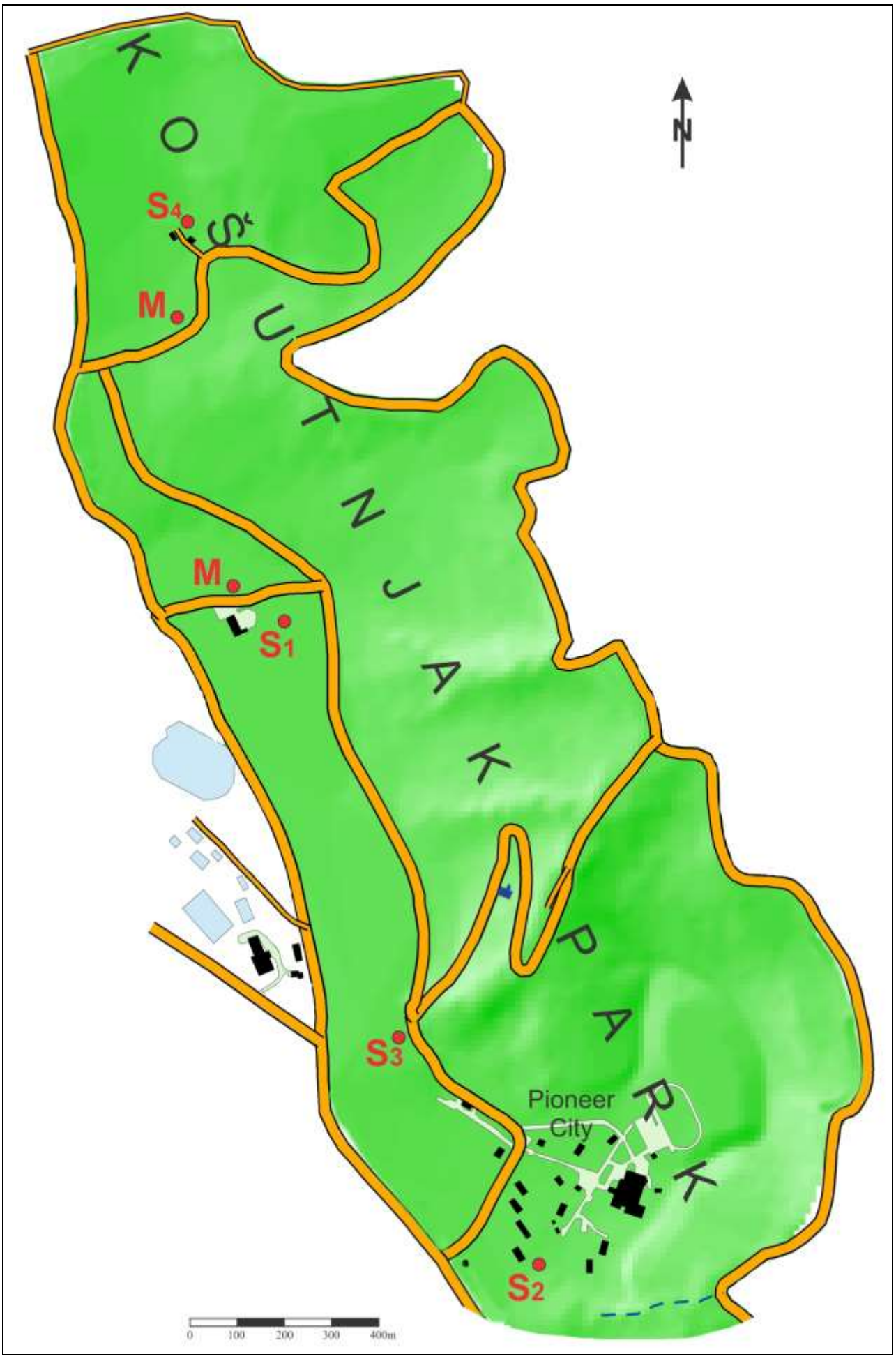
At each of the stops S1, S2 and S4 you will receive response sheets with handouts, and have **5 minutes** before start completing the task to write down your personal number on the front sheet and read the task.

There are two **meeting points M** between S1, S3 and S4, where all the groups arrive, wait for their turn, and from where they will be guided by volunteers to their starting, or finishing points. At all stops you can get drinking water. Toilets are near **meeting points**.

Please note that mobile phones, tablets or other means of communication are strictly prohibited during fieldwork. All violations of this rule will result in a penalty.

Take care at all times in the field; stay away from dangerous slopes.

Good luck!


KOSUTNJAK PARK
N
S4
M
M
S1
S3
S2
Pioneer City
0
100
200
300
400m

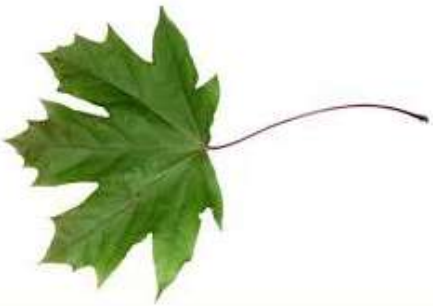
Write down your notes on the composition (species) and condition of vegetation of the Košutnjak park area. These notes will not be assessed, but you will use them tomorrow, to complete the FWE-2. On the right, you can see list of trees, common (natural) for Košutnjak area. Use it as a reference.

Quercus petraea cerris
(Turkey or Austrian oak)

Carpinus betulus moesicum
(European or common hornbeam)

Tilia tomentosa (Silver linden)

Acer platanoides (Norway maple)



Fagus moesiaca (Balkan Beech)

Student number	1	4				

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FIELDWORK EXERCISE 1

Task 1A

Student number

1	4				

Belgrade, 2017

DURATION 60 MINUTES. TOTAL 7 MARKS

Walk from the start point S1 near the Golf restaurant to the Stop S2 at the Amphitheater on the eastern part of Pioneer City.

On your way, identify all of the following features, located within the zone, circled on Map 1A by a **RED LINE**:

- open air sports facilities,
- children playgrounds,
- buildings.

On Map 1A, identify and label with numbers the features which are already mapped. You will also see features which are not indicated on the map. Draw and label those features on the map, ensuring you label each with a number. Use only a **pen** (blue, black, or other color, if needed)!

Write down the numbers of all these features in the table on the response sheet and provide the following data for them:

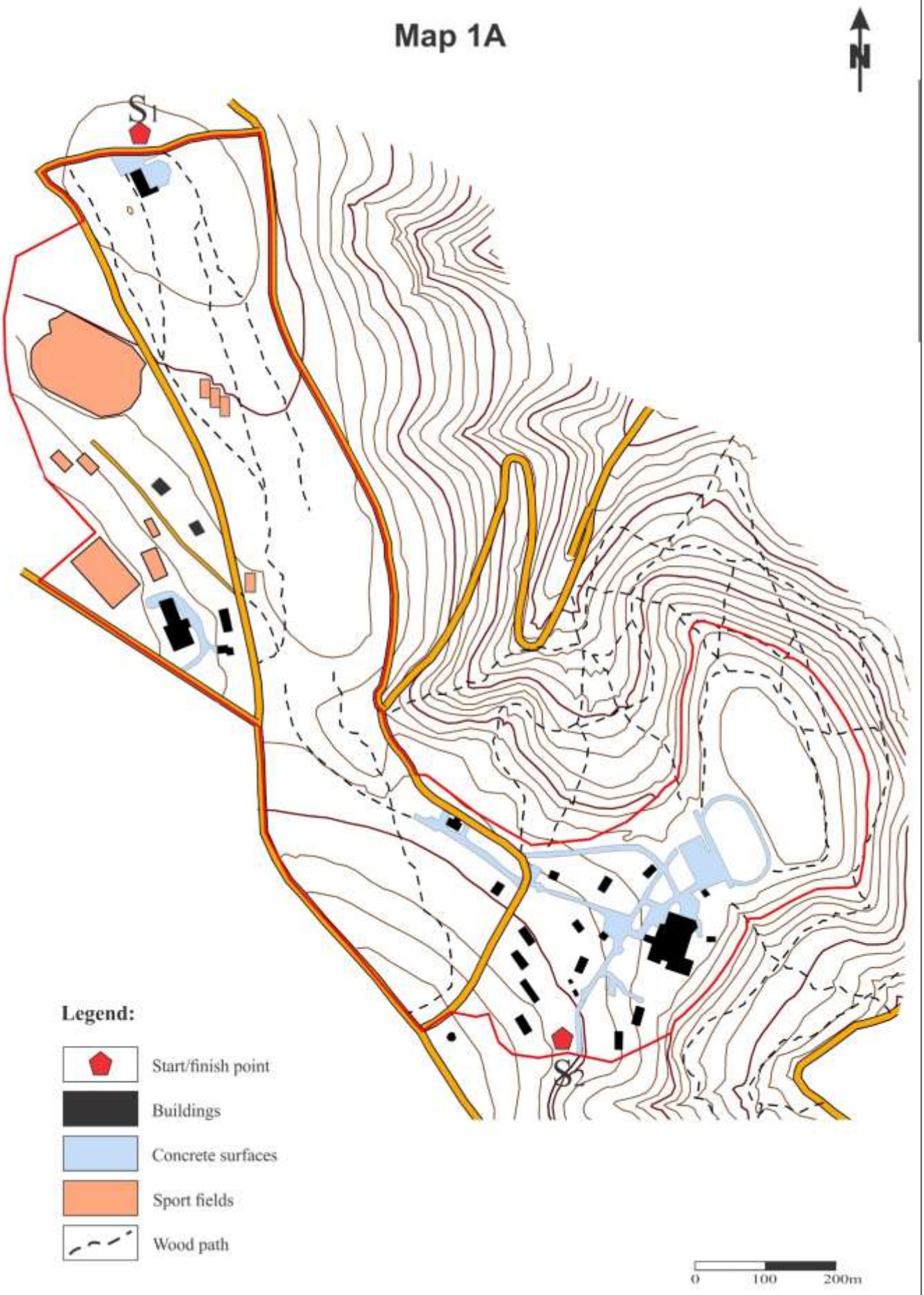
- For **all open air features**, including sports facilities, report the purpose of use and estimate the maximum number of users (players, watchers, visitors) at noon (12:00) on a weekend summer sunny day[1].
- For **buildings**, report the condition (quality; see example below).

Building condition (quality) assessment – 4 classes maximum:
A – totally ruined, need to be rebuilt;
B – very poor, need to be completely repaired;
C – average, serious restoration needed;
D – good, no or minor repairs needed.

At the Stop S2 you will have **10 minutes** to complete Map 1A and Response sheet before handing them in to the Jury.
Do not forget to **write your student numbe**r on the cover sheet, map and the response sheet!

[1]Assume that tennis is played in pairs (2 x 2), and there are 11 players in each football (soccer) team, 6 players in each volleyball team, and 5 players in basketball team (e.g. 10 players per game).

Map 1A



Student number	1	4				

Task 1A RESPONSE SHEET

Object Nº	Purpose of use, e.g. kind of sports	Condition/quality, A—D (buildings only)	Capacity of open air facilities, user numbers
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

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FIELDWORK EXERCISE 1

Task 1B

Student number

1	4			

Belgrade, 2017

DURATION 60 MINUTES. TOTAL 7 MARKS

Walk from Stop S2 at the Amphitheater on the eastern part of Pioneer City to Stop S3.

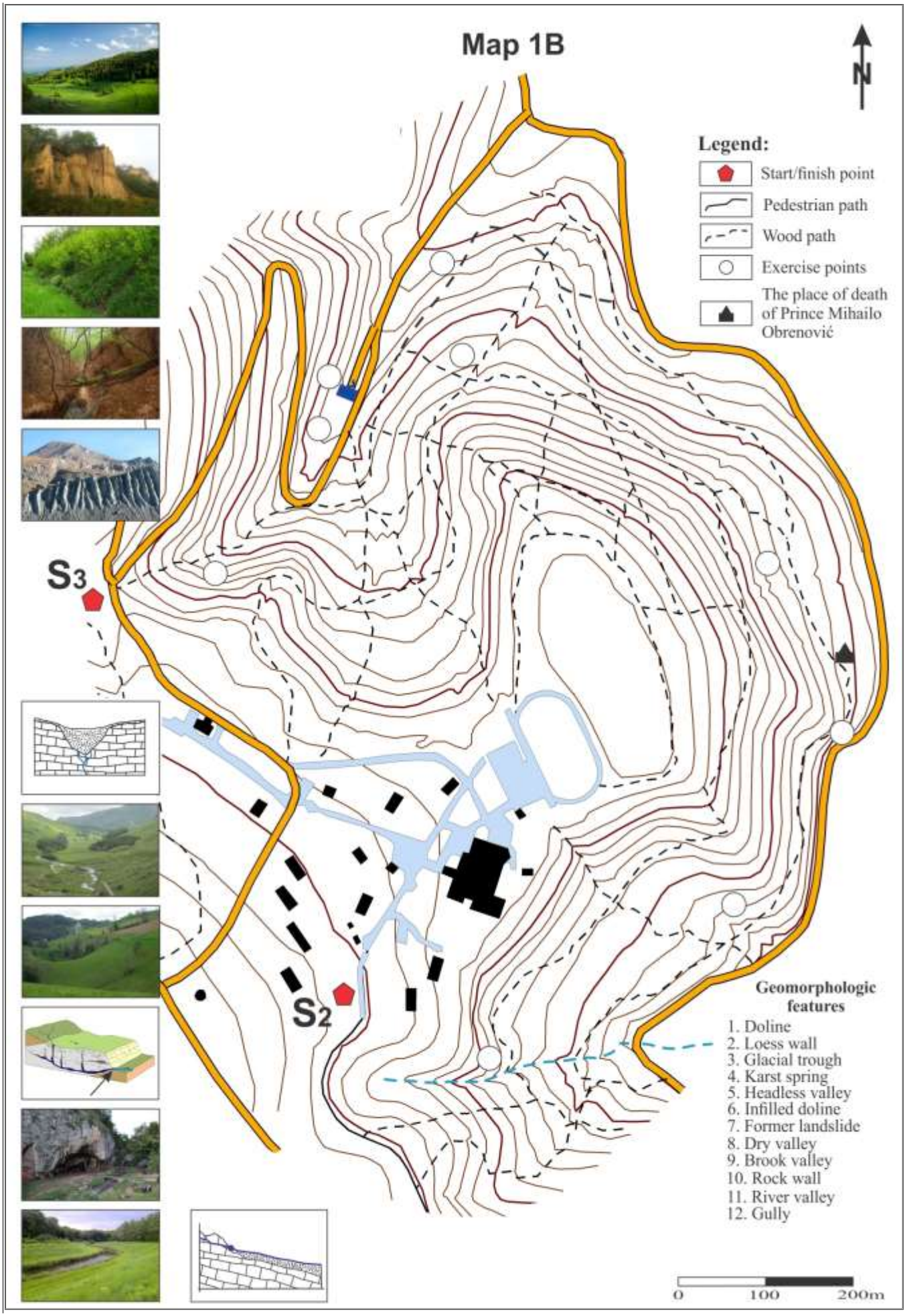
On your way, identify the **geomorphologic features**, located at the nine places marked by **WHITE CIRCLES** (Exercise Points) on Map 1B. Label each white circle with a number, corresponding to one of the geomorphologic features from the list, found on the same sheet. Use the small pictures to the left of the map as a reference for feature names. Bear in mind, that the pictures are not in random order.

Some features may be seen on your route twice, and that there are some pictures of features that you will not see in Košutnjak Park.

On the route, you can use pencil to make notes. Use pen to label the white circles with numbers before you hand in the map to the Jury.

At the Stop S3 you will have **10 minutes** to answer the questions, written on the Response sheet 1B. Then hand in your Map 1B and Response sheet 1B to the Jury.

Do not forget to write **your student number** on the cover sheet, map and response sheet.



Student number	1	4				

Task 1B RESPONSE SHEET

1B.1. Analyzethe geological profile from Košutnjak hill to Zemun (**Figure 1**). Identify which rock types from the list below, form layers annotated with capital letters on the profile. Write your answers in the **table 1**. **(1 m)**

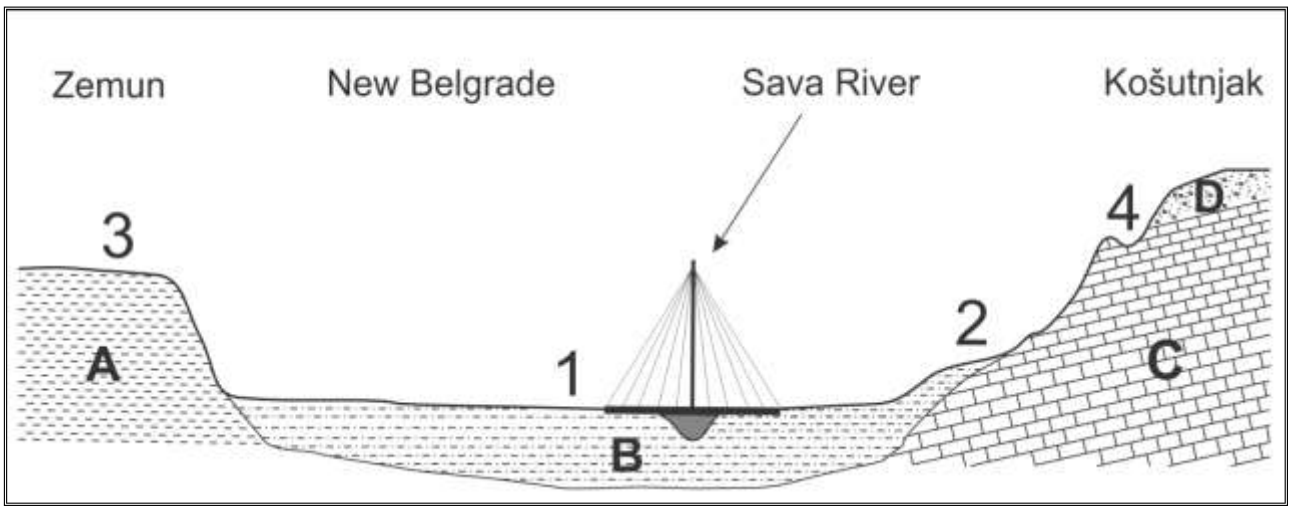


Figure1.

Rock types:

- Andesitic and dacitic tuff
- Loess
- Claystones
- Bedded and thick bedded limestones
- Clays, sands and gravels (Panonian)
- Dacito-andesite and latite
- Sands and clays
- Diabase and spilite

Table 1.

Letter on Fig. 1	Rock type
A.	_____
B.	_____
C.	_____
D.	_____

1B.2. Select from the list (below) the kinds of relief surfaces that correspond to the numbers on the profile, and enter their numbers in **Table 2**. Arrange them in descending order of age (from oldest to the most recent one). **(1 m)**

Relief surfaces list: *the surface of fluvial denudation, loess plain, river terrace, volcanic plateau, river floodplain, karst surface, plain of marine accumulation, the bottom of the tectonic plate.*

Table 2.

Number (from Fig. 1)	Relief surfaces

Student number	1	4				

1B.3. In which area marked by a **RED SQUARE** on the map (**figure 2**), you can most probably find geomorphologic features, similar to those typical for the Košutnjak park? Provide your answer with the geographic coordinates of the approximate centre of this box, to the closest whole degree (no minutes or seconds). What is the coomon name of this type of relief (terrain)?

(1 m)

Coordinates: _____

Type of relief, or terrain (*common name*): _____

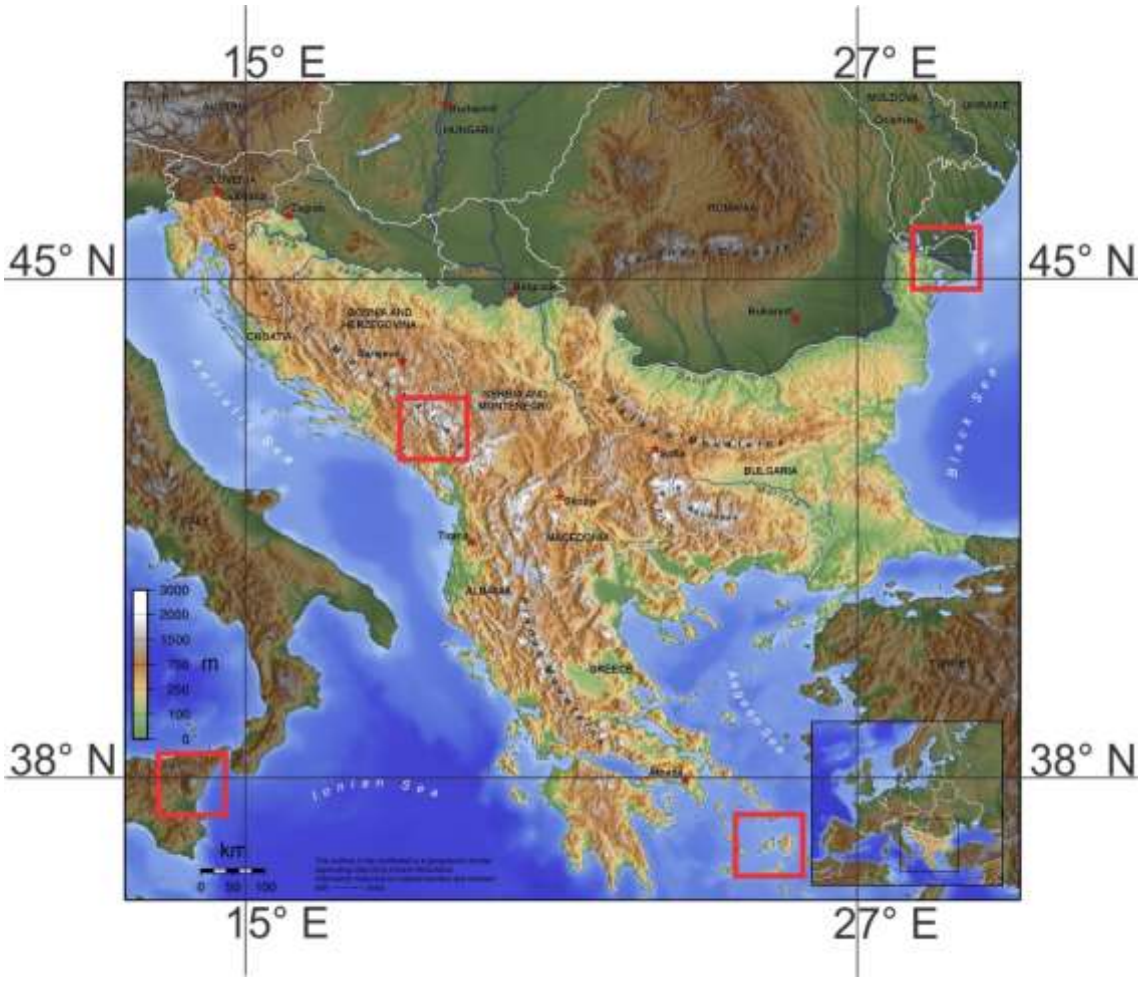


Figure 2.

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14th International Geography Olympiad

FIELDWORK EXERCISE 1

Task 1C

Student number

1	4				

Belgrade, 2017

DURATION 15 MINUTES. TOTAL 6 MARKS

You are now at the Stop S4. Use your position as an observation point over Belgrade. Remember this panoramic view for tomorrow's exercise (FWE-2). Complete the following tasks.

C1. Winter sports are gaining popularity in Belgrade. Using the data from the Košutnjak meteorological station (44°46´N 20°25´E; altitude 230 m), suggest which months will be able to support skiing season here. **(1 m)**

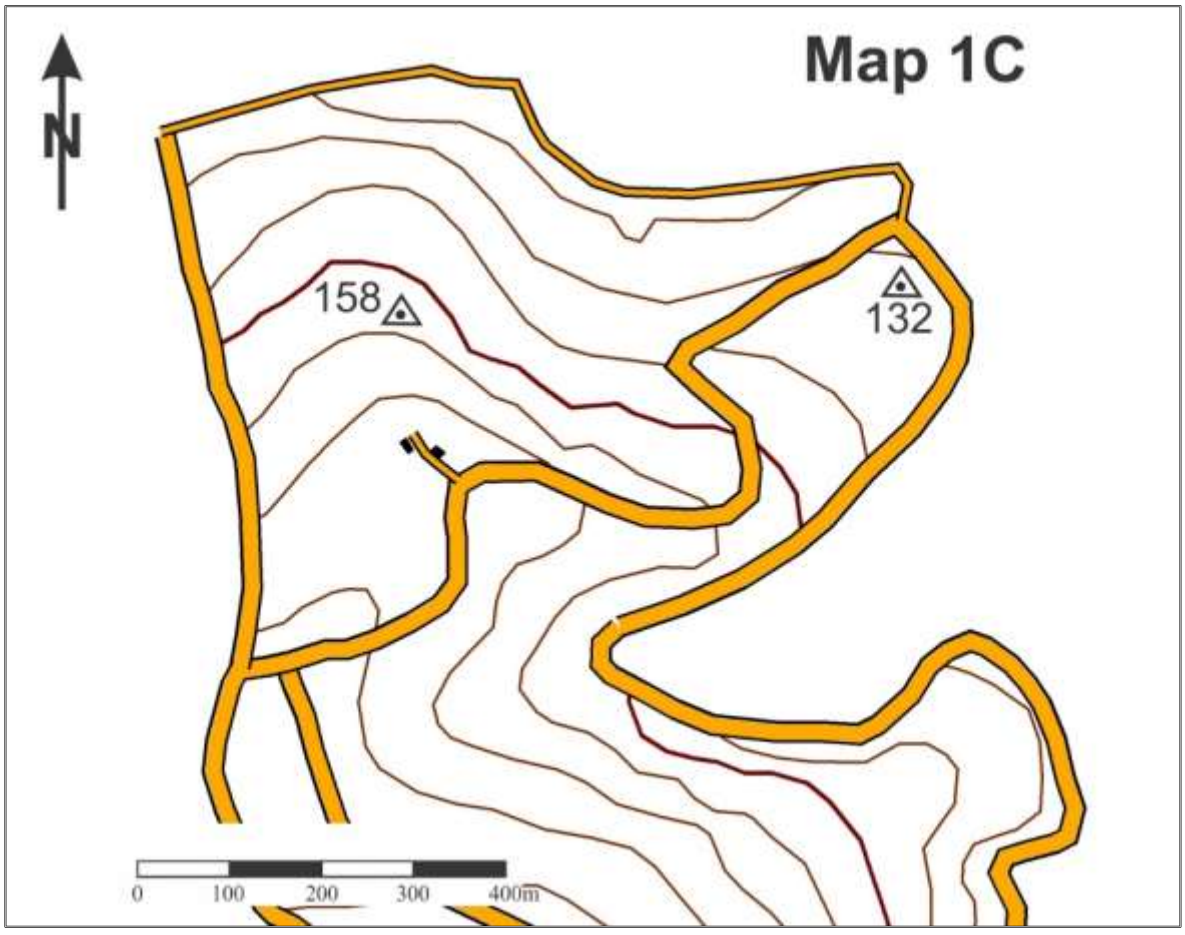
Average/month	Months											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Precipitation, mm	48	45	45	53	69	84	68	45	49	38	54	65
T°C	1.1	3.0	7.3	12.7	17.3	20.3	22.3	22.5	18.2	13.1	7.3	2.3

Months: _____

C2. You are standing near the upper point of a mountain ski run. Using Map 1C, calculate the inclination of this slope (degree, or percent). **(2 m)**

Place for calculations. Please show all of your work

Answer: Slope inclination – _____*(please, indicate the unit – degree, or percent)*

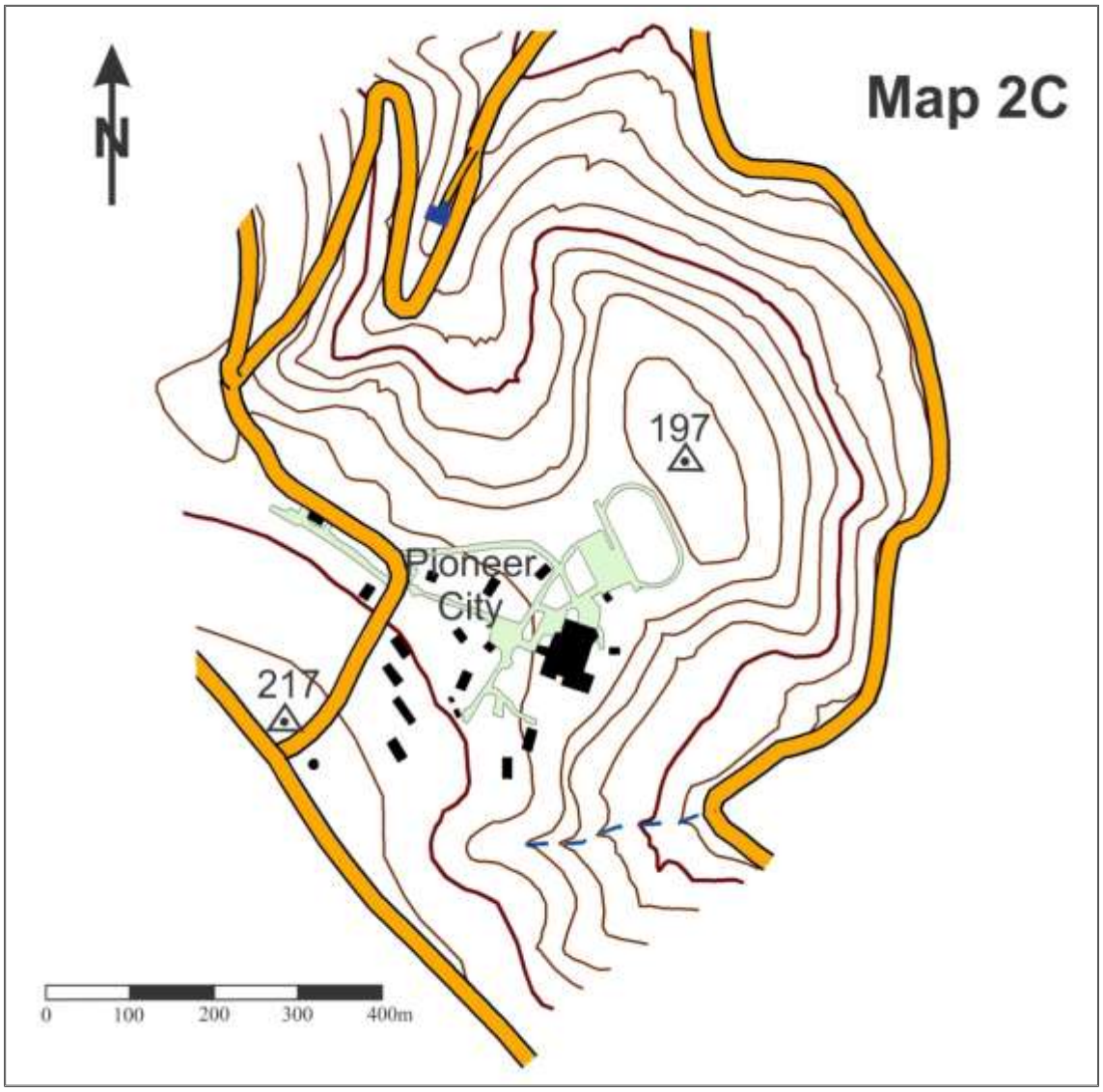


Student number	1	4				

C3. Imagine, that you are asked to plan an open-air ice skating rink to be placed at the Pioneer City close to the running pad. Assuming that the rink is a circle with a diameter of 75 m, find an appropriate place for this rink on Map 2C, and encircle it with a pen. As the skating rink should be flat, with no relative elevation, estimate the volume of ground to be removed. Take in consideration, that the place you have chosen requires minimal effort for make it flat. **(3m)**

Place for calculations. Please show all of your work

Answer: Volume of ground to be removed _____ cubic meters (m^3)



Student number	1	4				

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14th International Geography Olympiad

FIELDWORK EXERCISE 2

SUSTAINABLE DEVELOPMENT OF YOUTH TOURISM AT KOŠUTNJAK PARK OF BELGRADE, SERBIA

Student number

1	4				

Belgrade, 2017

INSTRUCTIONS

All tasks must be completed individually, using the answer templates provided.
The Resource Booklet contains important supporting materials: tables with statistical data, maps, etc.

Time management:

You have **10 minutes** to read the tasks and Resource Booklet. No writing during this time.
Students with English as the language of instruction then have **2 hours** to complete the test.
All other students have **2 hours and 20 minutes**.

Write your answers **in pen**.
You may use colored pencils/pens for map work.
You may refer to material in the Resource Booklet in your answers, and you may use material included in earlier answers to the FWE-1 you have provided.

Total marks for FWE-2: 20

I. Demography

I.1. Using the demographic data and map (see **Table 1** and **Map 5** in the **Resource Booklet**), calculate the total number of potential visitors to the Košutnjak Park from the municipalities, highlighted on the Map 5, who are aged 15—25 years old in 2017. Write your answer in the table below. **(1 m)**

Place for calculations

	Municipality	**Potential number of visitors 15—25 years old in 2017**
1.		
2.		
3.		
4.		
	Total:	

I.2. Assuming that only one out of 1,000 (one thousand) people aged 15—25 years old from each of the countries sharing borders with Serbia, will visit Košutnjak Park this year, which country can potentially provide the largest number of young tourists? **(1 m)**

Country: _____

Student number	**1**	**4**				

II. Transportation and Accessibility

II.1. Examine the current (present day) public transport scheme of Belgrade (**Map 6** of the Resource booklet. Which municipality highlighted on Map 5 has the easiest (fastest) connection with Pioneer City? Which municipality has the most complicated (slowest) connection with the Košutnjak Park? **(2 m)**

Fastest connection		**Slowest connection**	
Municipality	Justification (public transport lines configuration and length)	Municipality	Justification (public transport lines configuration and length)

II.2. There is a plan to build a tunnel for cars in Belgrade from **A** to **B** (**Map 4**). Provide positive justifications (benefits) for building this tunnel for future development of tourism in Košutnjak Park. **(2 m)**

Propose the shortest way to connect the Aleksandar restaurant at Košutnjak Park (Stop S4, where you were yesterday), with the exit from the proposed tunnel (**B** on **Map 4**). Be realistic: only kinds of transport, which are already used for passengers in the other cities of the world, can be proposed. Name this kind of public transport and estimate the length of its route from the tunnel exit to S4. **(1 m)**

_____ (*mode of transportation*)

Length of line _____m

Student number	**1**	**4**				

III. Human Impact (Anthropogenic Pressure)

III.1. On the **Map Template 1**,

- Divide the territory of the Košutnjak Park into no more than **5 zones** based on the degree of human impact (anthropogenic pressure). For this, summarize your observations, made during FWE-1, and use data from the Resource Booklet and maps.
- In the legend (key), write brief annotations for the characteristics of each zone. For this, you need to provide a title that refers to the main activities within this zone, and/or to its geographical location.
- Briefly describe the zones and the criteria behind their allocation.

(5 m)

III.2. Which of the zones you have identified is characterized by the highest degree of human impact (anthropogenic pressure) on its territory?

- Provide a quantitative indicator to measure human impact (anthropogenic pressure), and estimate its average value for this zone.

(1 m)

Zone with the highest degree of anthropogenic pressure: _____(*No from Legend*)

Indicator (variable):_____

Units of measurement: _____

Average value for this zone: _____

Student number	**1**	**4**				

Map Template 1

Legend

Zone number and brief annotation	Description and principles (criteria) behind your allocation
I.	
II.	

Student number	1	4				

IV. Potential and limitations for sustainable development of youth tourism at Košutnjak Park

IV.1. Using the Resource Booklet materials and your field observations from yesterday, think about kinds of youth tourism that could be practiced here. Provide answers to the following questions in the boxes, with brief explanation of reasons for each of them. **(4m)**

A. Which one of the already existing activities would you recommend to support and develop as a preference?

Answer

B. Which one of the already existing activities would you recommend to limit?

Answer

C. Which one completely new activity (never or very rarely practiced here before) would you recommend for development? Briefly describe it, informing title of activity, length of route, appropriate season of the year, and other important characteristics.

Answer

Student number	1	4				

IV.2. Imagine, that you are designing a plan for sustainable development of youth tourism in Košutnjak Park. Link ideas for your plan to different scales (levels). For each scale, indicate the main advantages/potentials, and main limitations/constraints. **(3 m)**

Scale (level)	**Advantages**	**Limitations/constraints**
Micro / Local ***(nearby districts)***		
Mezo / National ***(Belgrade and Serbia)***		
Macro / Regional ***(all Europe)***		

Student number	**1**	**4**				

Mark (**of 4**):