Time: 90 min.

20 points

Task 1

The public company Ski Resorts of Serbia is planning to build a ski track with accompanying contents in Avala (Fig. 1). Look at the plan below and do SWOT analysis with at least three answers.

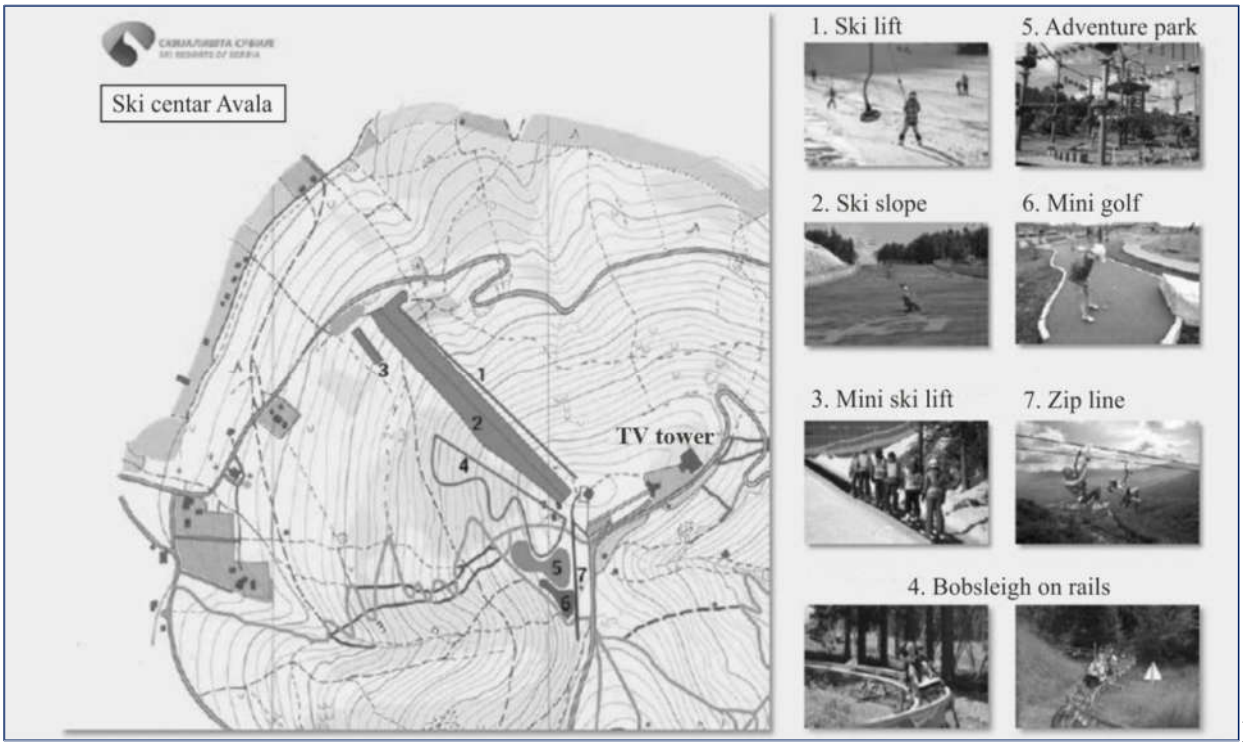

Fig. 1

Strengths	***Weaknesses***
1. Close to Belgrade 2. Good slope for skiing 3. Good exposition (NW) 4. Good infrastructure 5. Many attractions beside (0,5 pts for each of three right answer)	1. Height of mountain (temperature) 2. Not enough snow 3. Destroying protected nature 4. Only one short ski slope 5. Problem to make enough artificial snow (0,5 pts for each of three right answer)
Opportunities	***Threats***
1. New jobs for locals 2. An increase in the number of tourists 3. Cheaper winter activities 4. More money for local development 5. New events for Avala tourism (0,5 pts for each of three right answer)	1. Costly 2. Historical importance will lose value 3. Deforestation/problem with clean air for Belgrade 4. New landslide/torrent erosion 5. Problem with the local population protest (0,5 pts for each of three right answer)

(6 pts)

Task 2

Using a lapse rate of 0.6 ° C, calculate the average monthly temperatures at the top of Avala considering the data from the Belgrade meteorological station located in Košutnjak.

Average/month	Months											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
T°C (Košutnjak, 203 m a.s.l.)	1.1	3.0	7.3	12.7	17.3	20.3	22.3	22.5	18.2	13.1	7.3	2.3
T°C (Avala, 506 m a.s.l.)	-0.7	1.2	5.5	10.9	15.5	18.5	20.5	20.7	16.4	11.3	5.5	0.5

(4 pts)

Task 3

Calculate how many inhabitants of the municipality of Vozdovac live within a radius of 3500m of air distance from the top/peak of the Avala Mountain. Express the number in percentage? For your calculation, use the map of Avala and its surroundings (Fig. 2; scale 1:75.000) and the table of settlement population in the municipality of Voždovac.

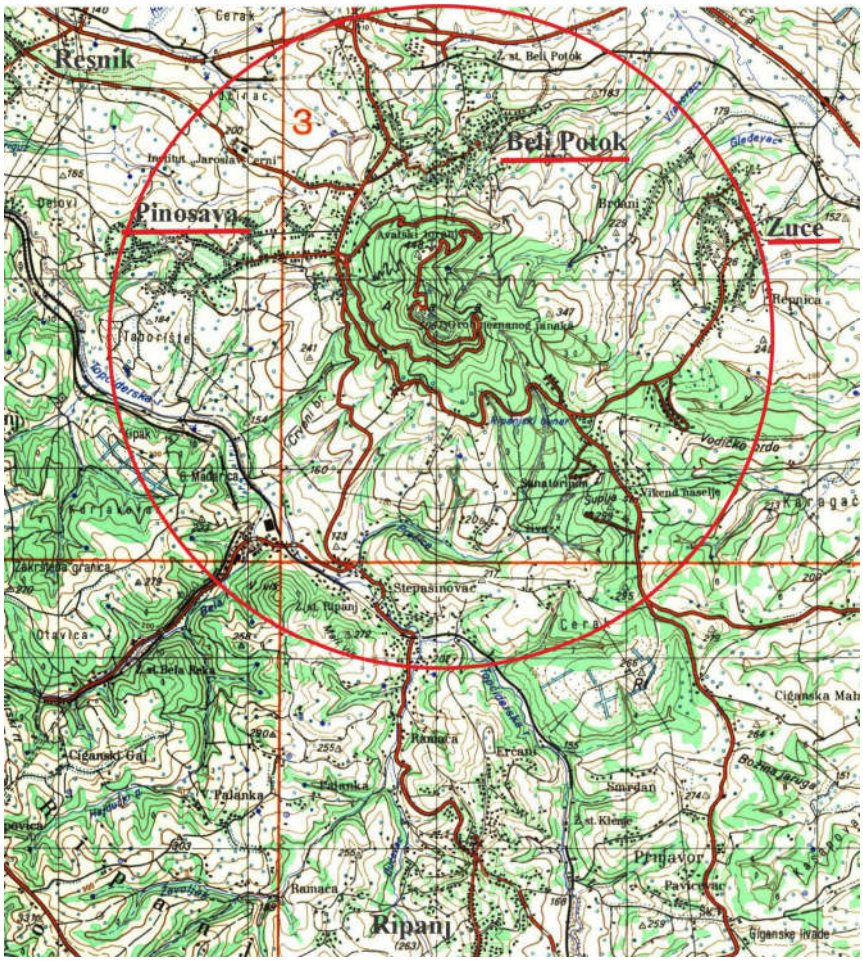

Fig. 2

Settlement	**Population (Census 2011)**
Beli Potok	3621
Pinosava	3151
Ripanj	11088
Voždovac	138352
Zuce	2001
Total	**158213**

Calculation:

3500 m / 75 m (scale 1:75.000) = 46,6 mm (half diameter of circle) (2 pts)

settlements are Beli potok, Pinosava and Zuce

3621 + 3151 + 2001 = 8773 inhabitants (2 pts)

158213 (inhabitants of Voždovac municipality) : 100 = 8773 : X

X = (8773*100)/158213 = 5,54% (2 pts)

Answer: 5,54%

(6 pts)

Zadatak 4

There was a severe plane crash in 1964, 50 m down the Monument to the Unknown Hero (Fig. 3; T_1). Russian war veterans, who were flying from Russia to Belgrade to celebrate 20 years of the libaration of Belgrade form German army, lost their life in the crash. Having in mind that the plane was heading towards Nikola Tesla Airport, which azimuth of flight did the pilot keep before the accident? You must draw in the azimuth on the satelite image below. (Fig. 3)

Answer: 313°

(4 pts)

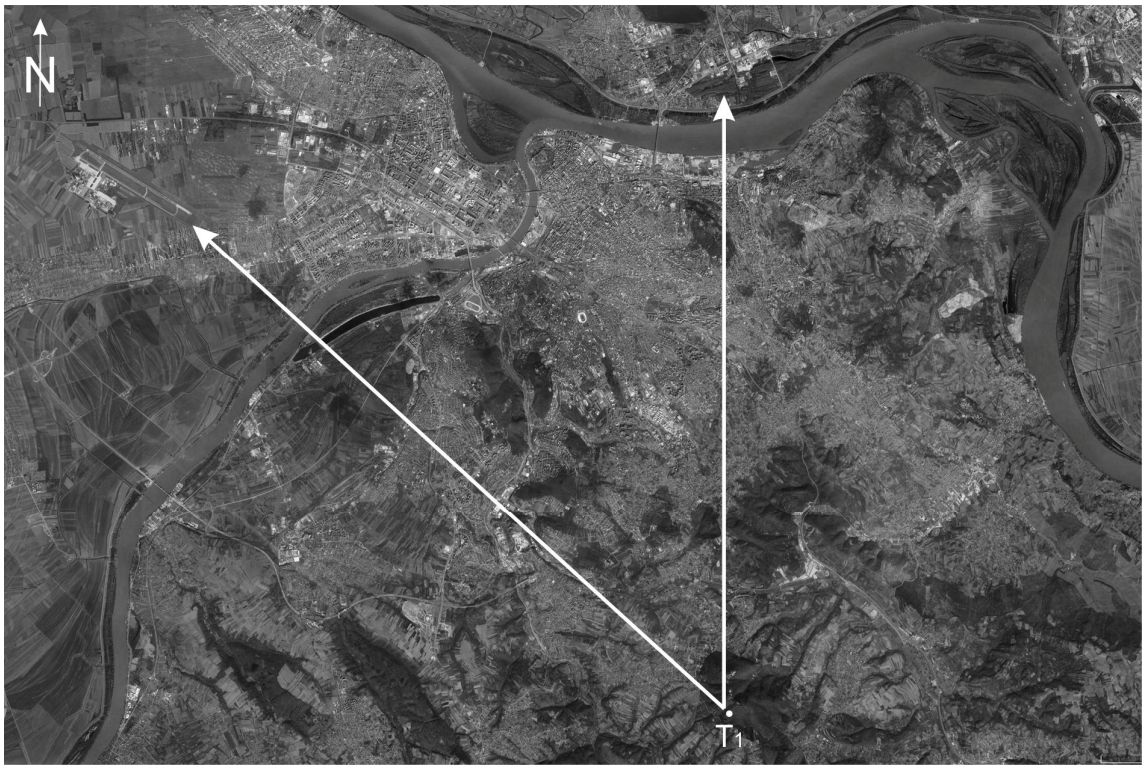

Fig. 3