

# THE GAME

## Treasure hunt in the Pi rhythm



The game Treasure hunt in the Pi rhythm was created within the project SciMaG- Science&Math educational games from preschool to university. The project is co-funded by the Erasmus+ Program of the European Union, KA220-SCH – Cooperation partnerships in school education(023-1-HR01-KA220-SCH-000165485).



**Co-funded by  
the European Union**

## How to play the game?

Following the first 24 digits of Pi and the movement rules in which each digit is assigned a step (UP, RIGHT, DOWN or LEFT), the figure moves along a rectangular grid, starting from the START field (defined when selecting the movement rules).

Each time the figure moves, the player checks with a UV lamp whether a symbol is drawn on the back of the piece of paper on which it stands and, if so, looks for that symbol in the bag with tasks. If he finds it, he takes that task, and if he does not find it, he continues walking.

After a total of 24 steps and collecting all the tasks, the player solves the tasks he has found.

### Story about number Pi

Pi is a special number, completely different from all other numbers. It is a completely irrational, yet positive character with no end. It wanders around in circles, and if you look carefully, you can find it in every circle. On the number line, its home is between the numbers 3 and 4, closer to the number 3 than to the number 4. Although it is sometimes difficult to write it down on a piece of paper, you can have a lot of fun if you play a game in Pi rhythm.

The digits of Pi (first 24):

- Unit digit: 3
- The first 23 digits in the decimal part of Pi: 1, 4, 1, 5, 9, 2, 6, 5, 3, 5, 8, 9, 7, 9, 3, 2, 3, 8, 4, 6, 2, 6, 4

Three different movement rules can be used. For each game in the rest of the booklet, it is noted which movement rule was used.

MOVEMENT 1 (START: 14)

ZNAMENKA	KORAK
0,1	UP
2,3,4	RIGHT
5,6	DOWN
7,8,9	LEFT

MOVEMENT 2 (START: 23)

ZNAMENKA	KORAK
1,3	UP
0,4,8	RIGHT
5,9	DOWN
2,6,7	LEFT

MOVEMENT 3 (START: 14)

ZNAMENKA	KORAK
0,1,2	UP
3,4	RIGHT
5,6,7	DOWN
8,9	LEFT

**GAME 1 – MATH PUZZLES (MOVEMENT 1)**



**1. PAINT BY NUMBERS**

1	1	4	4	3	4	1
3	3	2	2	2	2	4
4	1	2	5	5	1	3
5	4	2	2	2	2	1
5	3	2	5	5	2	5
1	4	2	2	2	2	4
4	1	5	5	3	3	5
2	5	3	1	5	5	2

**Paint by the following rules.**

- Number 1: **purple**
- Number 2: **blue**
- Number 3: **red**
- Number 4: **green**
- Number 5: **yellow**

**What do you recognize?**

**Add to the number you see the number of the letters of the colour you used to colour it. Memorize the result!**

**GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)**



**2. SQUARE GRID**

In the following grids the positions are marked by letter and number.

In the left grid shade the following positions:

**C4, F4, D2, F8, F2, C9, E5, C2, F5, E9, F9, D5, E2, F3, F6, C3, D9, F7, C5**

In the right grid shade the following positions:

**C2, F2, D8, F4, C5, E5, D5, F7, C8, E8, F3, E2, F8, D2, F6, F5**

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

The number from the left grid divide by the number obtained from the right one.

Memorize the result.



## GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)



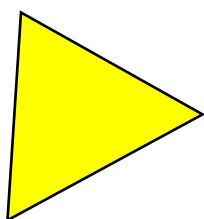
4. Find memory cards. Each card has it's pair. Which number is missing?

HOW MANY SIDES DOES THE SQUARE HAS?	1
SMALLEST ODD NUMBER	2
$1+1=?$	3
$1+2=?$	4
NUMBER OF SIDES OF A CUBE	?
HOW MANY DAYS IN A WEEK?	6
$4+4=?$	7
$5+4=?$	8
NUMBER OF FINGERS ON ONE HAND	9
NUMBER F FINGERS ON BOTH HANDS	10

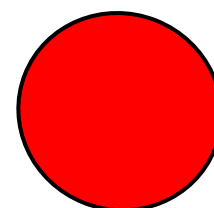
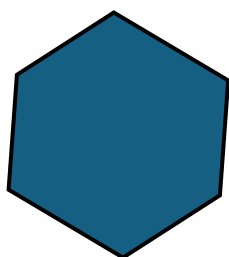
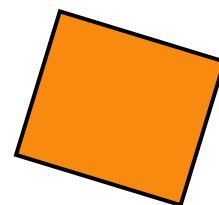
GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)



## 5. OSMOSMJERKA



C	T	E	Z	J	O	R	M	H
S	R	G	B	F	A	E	U	B
Q	I	E	T	U	G	B	L	W
U	A	L	N	V	C	M	T	E
A	N	C	E	O	D	U	I	M
R	G	R	M	L	N	N	P	I
E	L	I	G	U	E	O	L	B
R	E	C	E	M	V	W	Y	C
S	Z	L	S	E	E	N	I	L



Find the following words.

**CIRCLE**

**CUBE**

**LINE**

**MULTIPLY**

**SEGMENT**

**SQUARE**

**VOLUME**

**EVEN**

**NUMBER**

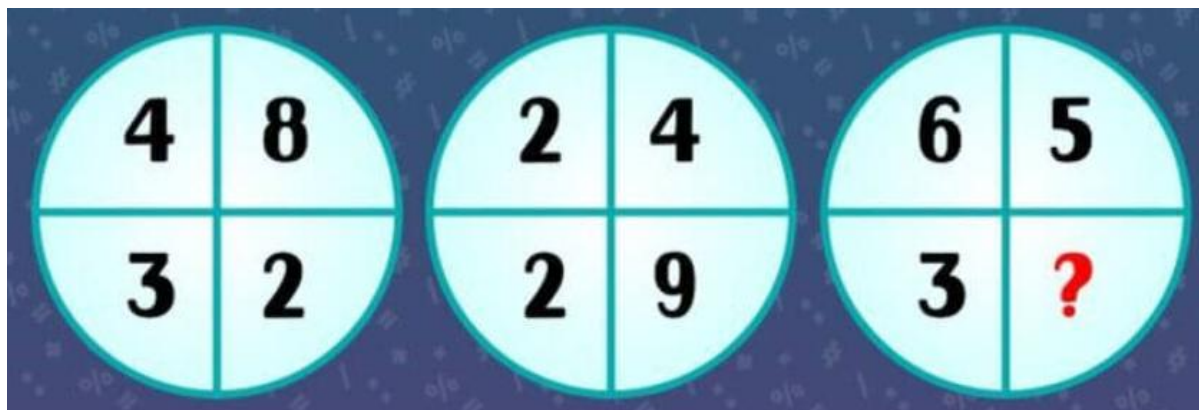
**TRIANGLE**

Count the letters which are not used. Subtract 21 and then multiply by 2.

Memorize the result!

**GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)**

## 6. MISSING NUMBER



7. Ceaser encrypted his messages such that he replaced every letter with letter 3 position down in the alphabet.

**A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

For example, MATH would encrypt in PDWK.

How can you decrypt PDWK back in the MATH?

Now, when you have figured this out, we hide one message for you... Can you decrypt it?

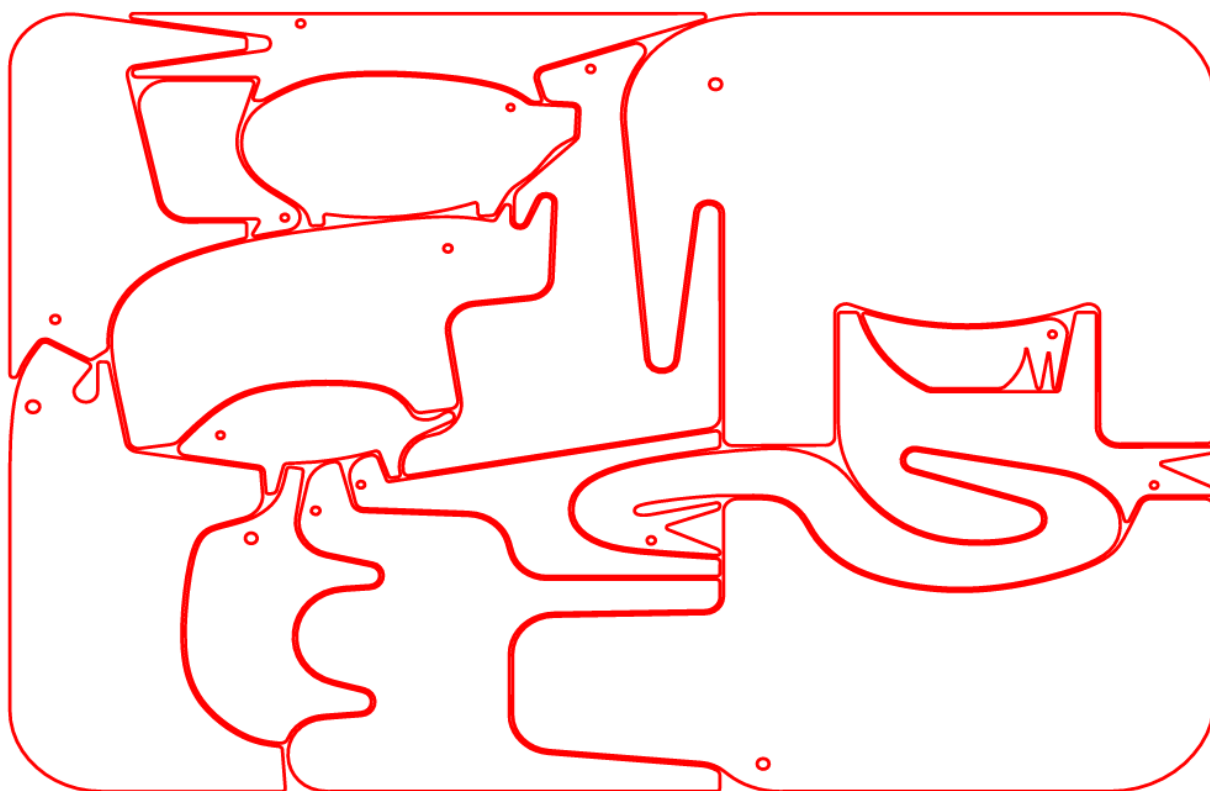
**KRZ PDQB OHWWHUV GRHV WKH ZRUG IHVWLYDO KDYH?**

## GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)

8. Solve the puzzle in the envelope in the marked rectangular frame! A little help: the elephant is placed in the top right corner! Keep it solved, you might need it afterwards!

Preparation needed:

- Print the puzzles (on 3d printer or cut from the paper):  
<https://www.thingiverse.com/thing:2777352>
- On the assembled puzzle (so that the elephant is in the upper right corner) you should write (with a UV marker) the number 384.



## GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)



**9. Pick one number between 2 and 6 (including 2 and 6) :-)**

*Multiply it by 2.*

*Add 11.*

*Subtract 4.*

*From the given number subtract the sum of its digits.*

**Memorize the result!**



10. Good job! If you followed the instructions correctly, you have found 9 tasks. When you solve them, do the following.

- Add 1 to the solution from the **task 1** and multiply obtained number by 2.
- Add 3 to the solution from the **task 2**.
- Multiply the solution of the **task 3** by 10.
- Multiply the solution of the **task 4** by 5.
- Add 10 to the solution from the **task 5**.
- Subtract 1 from the solution from the **task 6**.
- Multiply the solution of the **task 7** by 4.
- Use the UV lamp to see the number that the puzzle from the **task 8** is hiding. Add 118 to that number.
- Subtract 4 from the solution from the **task 9**.

Add up all the numbers obtained and look for the chest – the obtained number is the key to open it!

**GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)**

**1. PAINT BY NUMBERS**



1	1	4	4	3	4	1
3	3	2	2	2	2	4
4	1	2	5	5	1	3
5	4	2	2	2	2	1
5	3	2	5	5	2	5
1	4	2	2	2	2	4
4	1	5	5	3	3	5
2	5	3	1	5	5	2

**Paint by the following rules.**

- Number 1: purple
- Number 2: yellow
- Number 3: green
- Number 4: red
- Number 5: blue

**What do you recognize?**

**Add the number you see to the number of the letters of the colour you used to colour it.**

**GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)**



**2. SQUARE GRID**

In the following grids the positions are marked by letter and number.

In the left grid shade the following positions:

**C4, F4, D2, F8, F2, C9, E5, C2, F5, E9, F9, D5, E2, F3, F6, C3, D9, F7, C5**

In the right grid shade the following positions:

**C2, F2, D8, F4, C5, E5, D5, F7, C8, E8, F3, E2, F8, D2, F6, F5**

	A	B	C	D	E	F	G	H		A	B	C	D	E	F	G	H
1									1								
2									2								
3									3								
4									4								
5									5								
6									6								
7									7								
8									8								
9									9								
10									10								

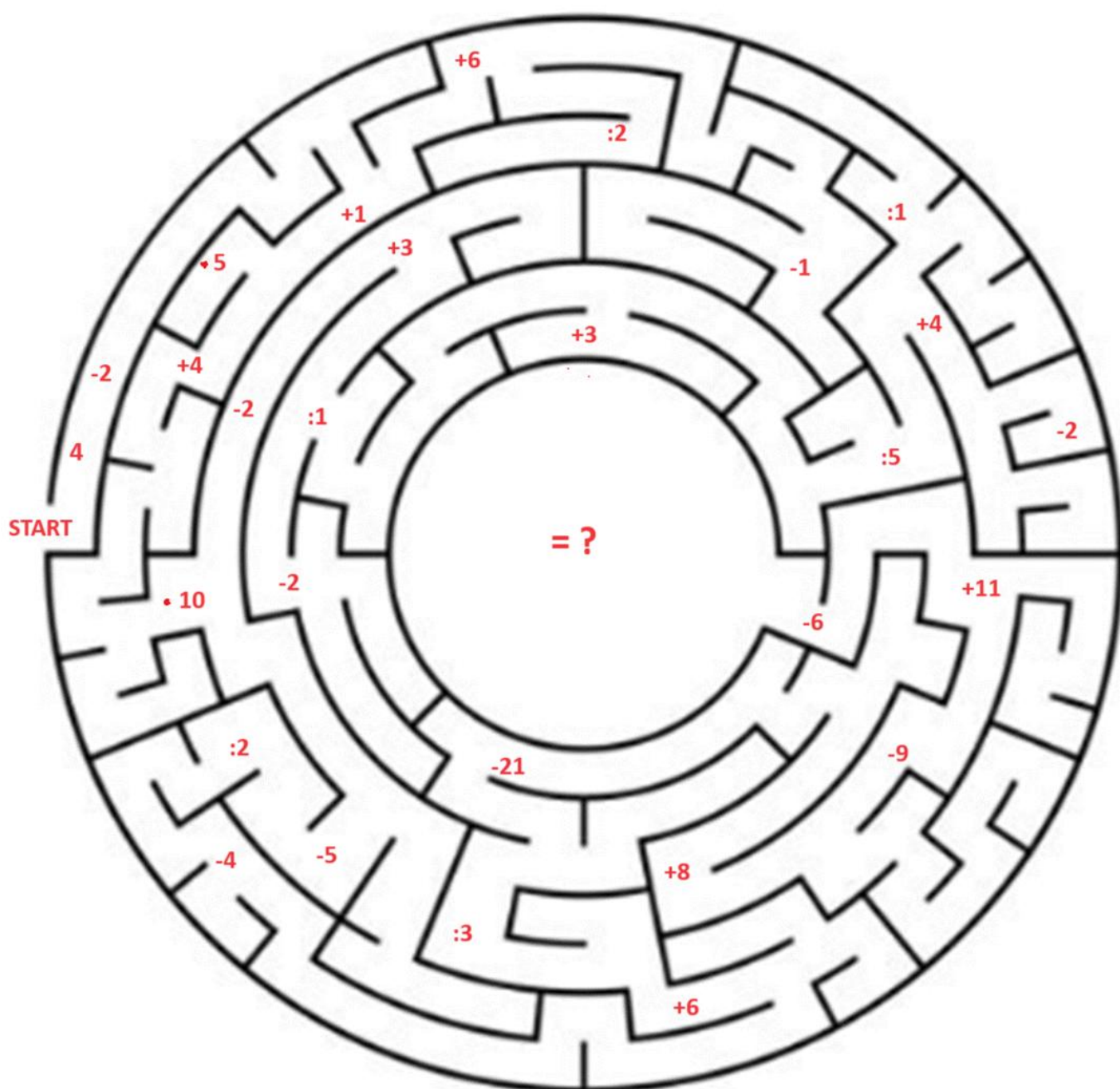
**Rješenje:**

Add the number form the left grid to the number obtained from the right one.

Memorize the result.

GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)

3.



## GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)



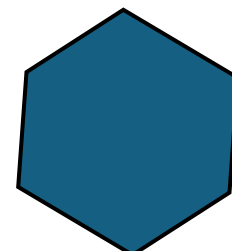
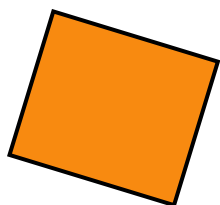
4. Find memory cards. Each card has it's pair. Which number is missing?

HOW MANY SIDES DOES THE SQUARE HAS?	1
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$1+1=?$	?
$1+2=?$	4
NUMBER OF SIDES OF A CUBE	5
HOW MANY DAYS IN A WEEK?	6
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$5+4=?$	8
NUMBER OF FINGERS ON ONE HAND	9
NUMBER F FINGERS ON BOTH HANDS	10

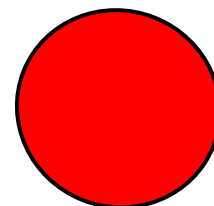
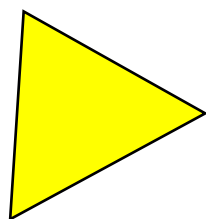
GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)



## 5. EIGHT - WAY



C	T	E	Z	J	O	R	M	H
S	R	G	B	F	A	E	U	B
Q	I	E	T	U	G	B	L	W
U	A	L	N	V	C	M	T	E
A	N	C	E	O	D	U	I	M
R	G	R	M	L	N	N	P	I
E	L	I	G	U	E	O	L	B
R	E	C	E	M	V	W	Y	C
S	Z	L	S	E	E	N	I	L



Find the following words.

**CIRCLE**

**CUBE**

**LINE**

**MULTIPLY**

**SEGMENT**

**SQUARE**

**VOLUME**

**EVEN**

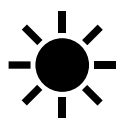
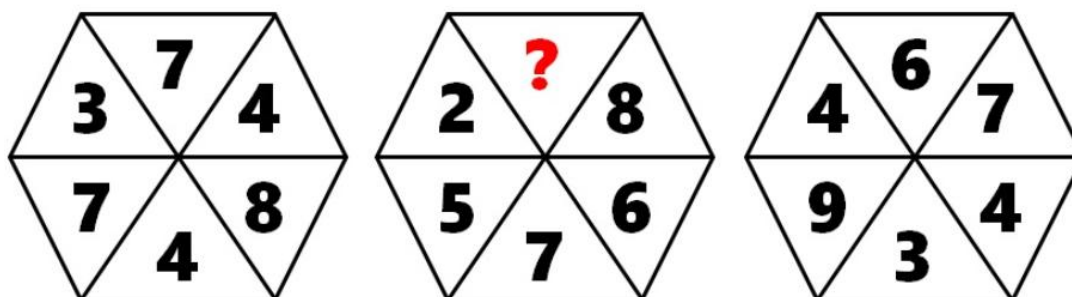
**NUMBER**

**TRIANGLE**

Count the letters which are not used. Subtract 22 and then multiply by 4.

Memorize the result!

## 6. MISSING NUMBER



7. Ceaser encrypted his messages such that he replaced every letter with letter 3 position down in the alphabet.

**A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**

For example, MATH would encrypt in PDWK.

How can you decrypt PDWK back in the MATH?

Now, when you have figured this out, we hide one message for you... Can you decrypt it?

**KRZ PDQB OHWWHUV GRHV WKH ZRUG QXPEHU KDYH?**



8. Solve the puzzle in the envelope in the marked rectangular frame! A little help: the elephant is placed in the top right corner! Keep it solved, you might need it afterwards!

## GAME 1 – MATEMATIČKE MOZGALICE (MOVEMENT 1)



**9. Pick one number between 2 and 6 (including 2 and 6) :-)**

*Multiply it by 2.*

*Add 11.*

*Subtract 4.*

*From the given number subtract the sum of its digits.*

*Add 2.*

**Memorize the result!**



10. Good job! If you followed the instructions correctly, you have found 9 tasks. When you solve them, do the following.

- Add 1 to the solution from the **task 1** and multiply obtained number by 2.
- Add 2 to the solution from the **task 2**.
- Multiply the solution of the **task 3** by 5.
- Multiply the solution of the **task 4** by 4.
- Add 1 to the solution from the **task 5**.
- Subtract 1 from the solution from the **task 6**.
- Multiply the solution of the **task 7** by 3.
- Use the UV lamp to see the number that the puzzle from the **task 8** is hiding. Add 108 to that number.
- Subtract 2 from the solution from the **task 9**.

Add up all the numbers obtained and look for the chest – the obtained number is the key to open it!

## GAME 2 – GEOGRAPHY (MOVEMENT 1)

1. What number on the map marks the direction that connects Eastern Europe via the Black Sea countries of Southeastern Europe with the Aegean Sea?



Traffic-geographical position of Southeast Europe

Source: *GEA 3 Geography textbook for the seventh grade of elementary school* (Orešić D., Tišma I., Vuk R., Bujan A., 2021)

## GAME 2 – GEOGRAPHY (MOVEMENT 1)

**2. Read the statements and circle the number in front of the one that most closely describes the economic characteristic of the Southeast Europe region.**

1. The region is leading in the financial sector, with many global cities.
2. The region experienced strong economic growth after the fall of communism, thanks to investments and EU membership.
3. The region has a developed automotive industry (BMW, Mercedes, Audi, VW, Golf)
4. The region relies on tourism as a key economic sector.
5. The region is rich in hydropower and known for its developed winter tourism.
6. The region has fast-growing IT sectors, and stands out as a leader in the digital economy.
7. The region has a high standard of living, a welfare state and a low unemployment rate.
8. A region where few people are engaged in primary activities, and in none of the countries of the region are more than 20% employed in secondary activities.
9. The region is developing tourism, but faces high unemployment, brain drain, and slower industrial modernization.



**3. What number is the country in Southeast Europe to which all the following statements refer:**

- Only the Cyrillic alphabet is used in the country.
- It has two official languages.
- It has a positive natural change.
- Candidate country for EU membership.
- Apart from the capital, the leading economic centers are Bitola, Prilep, Kumanovo and Tetovo.
- The most widespread religion is Orthodoxy.
- The lakes are of tectonic origin and have great tourist significance.



1. Montenegro
2. North Macedonia
3. Romania
4. Serbia
5. Bosnia and Herzegovina
6. Bulgaria
7. Kosovo.

## GAME 2 – GEOGRAPHY (MOVEMENT 1)

### 4. Recognize the Croatian community!

This Croatian community has lived outside the borders of Croatia for centuries, and they are known for their diligence and preservation of tradition. Their ancestors immigrated from the Dalmatian region, and today they are most numerous in the area of Pristina and Letnica. They speak a characteristic dialect that preserves older forms of the Croatian language. Despite the challenges, they continue to cherish their customs, especially through religious holidays and togetherness.



Which Croatian community does this description belong to? Circle the number in front of the correct answer.

1. Shocks
2. Lambs
3. Bunjevci
4. Boka Croats

5. . Solve the task using the attached photos of the flags of Southeastern European countries. What numbers are on the flags of Southeastern European countries, which are also members of the European Union?

What is the product of the two numbers you circled? Write the product of the two numbers on your answer sheet.



## GAME 2 – GEOGRAPHY (MOVEMENT 1)

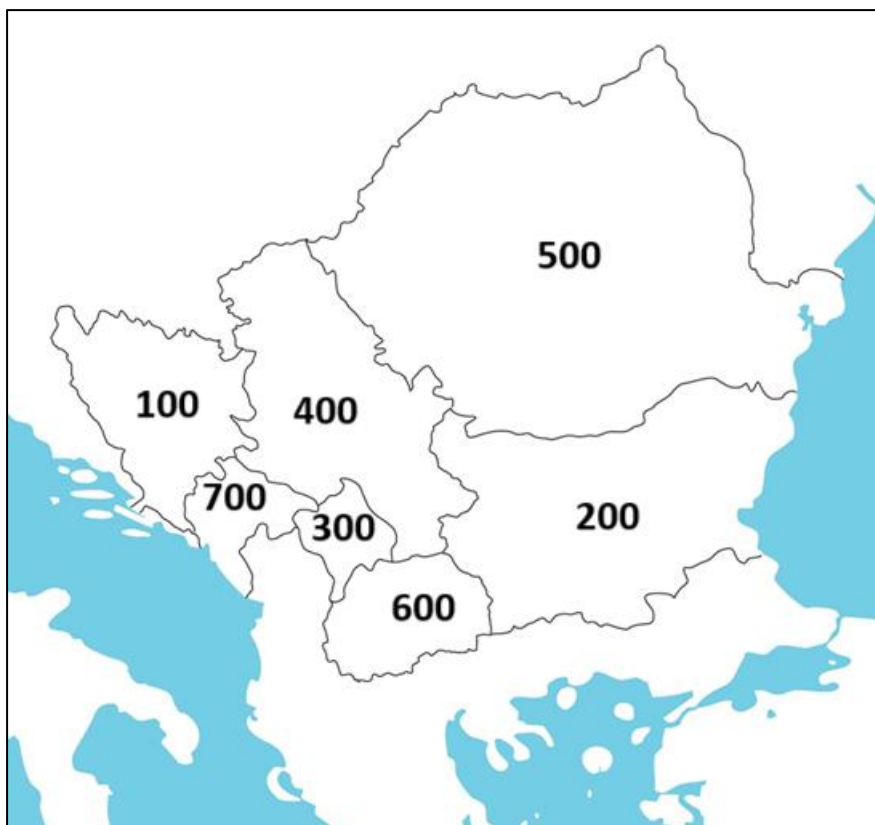
6. Complete the table by calculating the missing data.

Serial number	Country name	Birth rate (‰)	Mortality (‰)	Natural change (‰)
1	Bosnia and Herzegovina	8.2	10.3	
2	Bulgaria	7.9	14.2	
3	Montenegro	10.9	10.3	
4	North Macedonia	10.2	9.6	
5	Romania	8.5	14.6	
6	Kosovo	14.4	7.2	
7	Serbia	8.8	14.9	

Source: Factbook Europe 2024, <https://www.cia.gov/the-world-factbook/europe/> (accessed 10. 3. 2025.)

What is the ordinal number for the country with the highest natural growth rate?

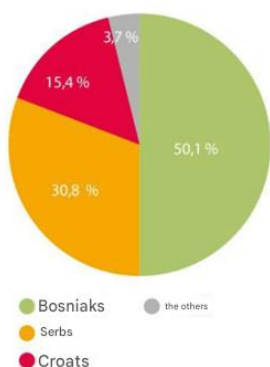
7. What number is assigned to the country in Southeast Europe whose official language belongs to the Romance group of Indo-European languages?



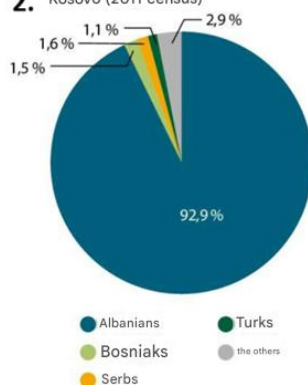
## GAME 2 – GEOGRAPHY (MOVEMENT 1)

8. What number is the country with the largest share of ethnic minorities in the total population?

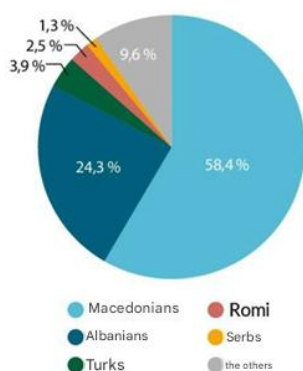
1. BiH (2013 census)



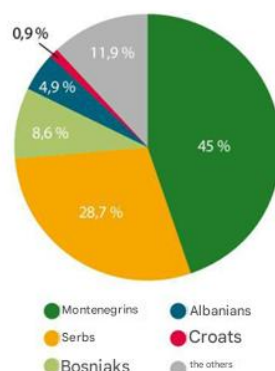
2. Kosovo (2011 census)



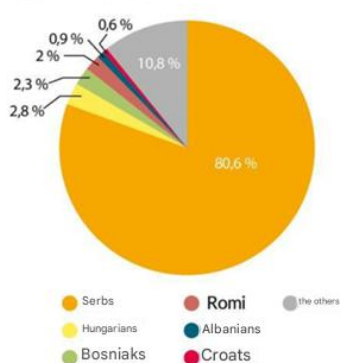
3. North Macedonia (2021 census)



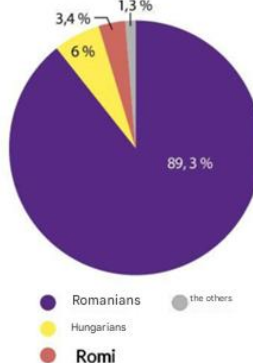
4. Montenegro (2011 census)



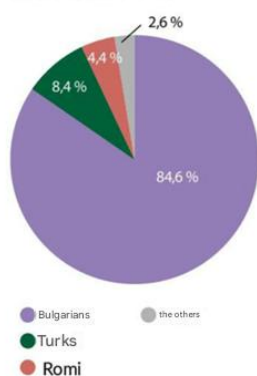
5. Serbia (2022 census)



6. Romania (2021 census)



7. Bulgaria (2021 census)

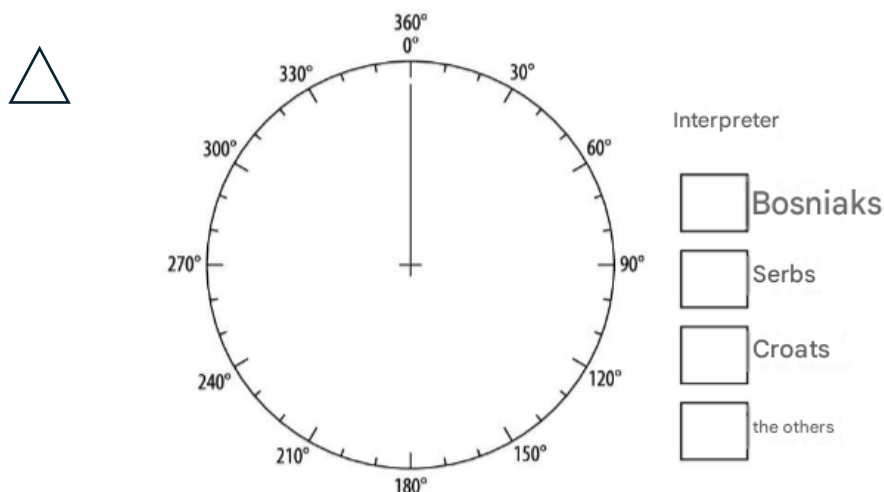


## GAME 2 – GEOGRAPHY (MOVEMENT 1)

**9. Fill in the table with the missing share data: 50%, 31%, 15%**

Serial number	People	Share in total population according to the results of the 2013 census
1.	Bosniaks	
2.	Serbs	
3.	Croats	
4.	others	4%

Using the data from the table, create a pie chart of the ethnic structure of the population of Bosnia and Herzegovina ( $3.6^\circ = 1\%$ ).



**What ordinal number is the constituent nation of Bosnia and Herzegovina, which makes up the largest share of the total population according to the results of the 2013 census?**

Well done, you successfully danced our Pi dance! If you followed the instructions carefully, you found 9 tasks. Once you've solved them, do the following.



- Determine the sum of all the numbers obtained.
- Add 100 to the resulting sum.
- Look for the chest - the number you get is the code to open it!

## GAME 2 – GEOGRAPHY (MOVEMENT 1)

### "FAKE" TASKS

1. What number on the map indicates the direction that connects Central Europe through the multinational state of Southeast Europe with the central Adriatic?



Traffic-geographical position of Southeast Europe


Source: *GEA 3 Geography textbook in the seventh grade of primary school*  
(Orešić D., Tišma I., Vuk R., Bujan A., 2021)

## GAME 2 – GEOGRAPHY (MOVEMENT 1)

**2. Read the statements and circle the number in front of the one that does not refer to the economic characteristic of the region of Southeast Europe.**

- 
1. High dependence on tourism
  2. High unemployment, especially among young people. Unemployment in the region often exceeds the EU average.
  3. Slower industrial modernization, difficulties in modernization of production and technological progress.
  4. Dependence on agriculture, especially in rural areas.
  5. Significant energy resources, especially in the form of hydropower.
  6. Low standard of living and high public debt.
  7. With its rapidly growing IT sector, the region stands out as a leader in the digital economy.
  8. Dependence on exports of raw materials and semi-finished products. Many countries in the region rely on exports of raw materials, metals and minerals, while exports of finished goods and high-tech products are smaller.
  9. Labor migration, which affects the labor force and the labor market.

**3. What number is the country in Southeast Europe to which all the following statements refer:**

- 
- Both the Latin and Cyrillic scripts are used in the country.
  - It has one official language.
  - It has a positive natural change.
  - A candidate country for EU membership.
  - Apart from the capital, the leading economic center is Nikšić.
  - The most widespread religion is Orthodox Christianity.
  - The lakes are of tectonic origin and have great tourist significance.

1. Montenegro
2. North Macedonia
3. Romania
4. Serbia
5. Bosnia and Herzegovina
6. Bulgaria
7. Kosovo.

## GAME 2 – GEOGRAPHY (MOVEMENT 1)

### 4. Recognize the Croatian community!

This Croatian community has lived on the Adriatic coast for centuries, and they are especially known for their maritime tradition. Their culture is closely connected to the sea, shipbuilding and sailing, and one of the most famous customs they cherish is the "Feast of St. Tripun" . They live in cities such as Kotor, Perast and Tivat, and throughout history they have produced many prominent sailors and captains.



**Which Croatian community does this description belong to? Circle the number in front of the correct answer.**

1. Shocks
2. Lambs
3. Bunjevci
4. Boka Croats

**5. Solve the problem using the attached photographs of the flags of the countries of Southeast Europe. What numbers indicate the countries whose currency is the euro? What is the product of the two numbers you circled? Write the product of the two numbers on your answer sheet.**



## GAME 2 – GEOGRAPHY (MOVEMENT 1)

6. Complete the table by calculating the missing data.

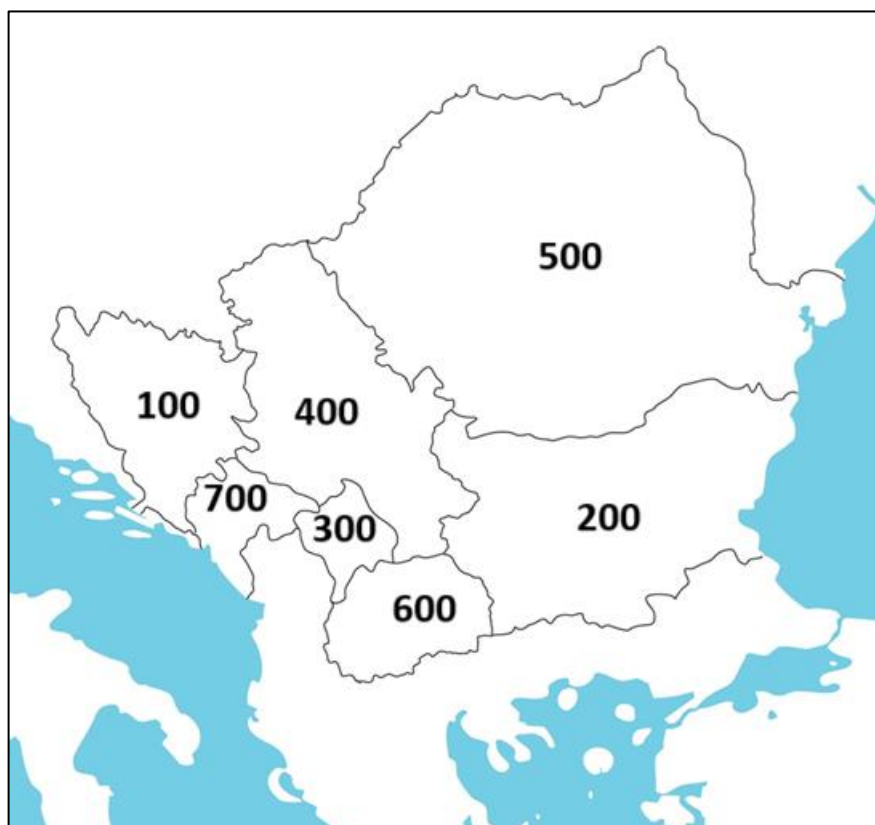
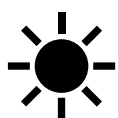


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6	Kosovo	14.4	7.2	
7	Serbia	8.8	14.9	

Source: Factbook Europe 2024, <https://www.cia.gov/the-world-factbook/europe/> (accessed 10/03/2025)

**Which ordinal number indicates the country with the largest natural decline in population?**

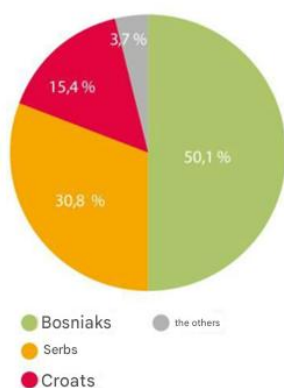
7. What number is assigned to the country in Southeast Europe whose official language belongs to the group of other Indo-European languages?



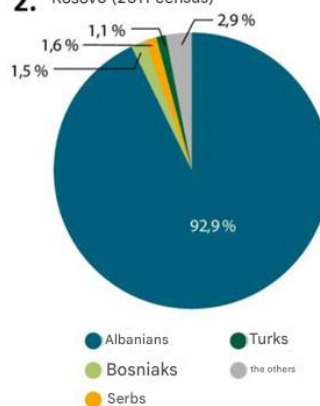
## GAME 2 – GEOGRAPHY (MOVEMENT 1)

8. What number is the country whose ethnic minority has the largest share of the total population?

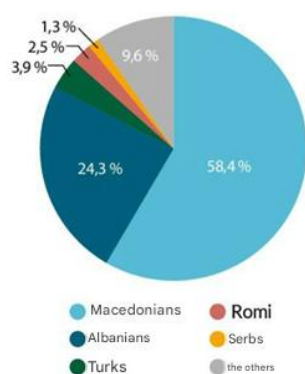
1. BiH (2013 census)



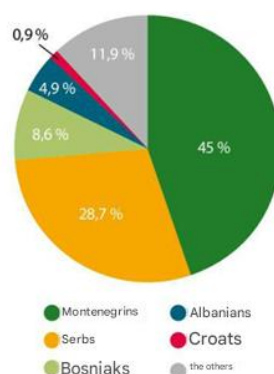
2. Kosovo (2011 census)



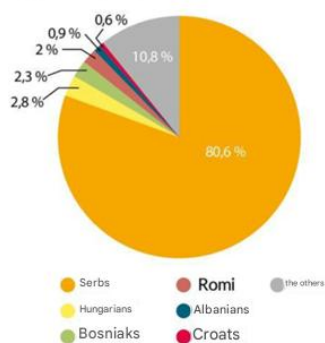
3. North Macedonia (2021 census)



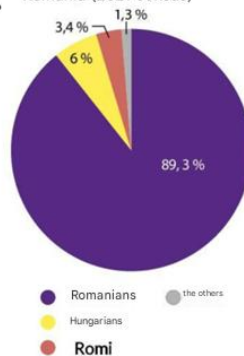
4. Montenegro (2011 census)



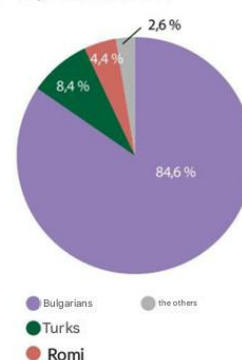
5. Serbia (2022 census)



6. Romania (2021 census)



7. Bulgaria (2021 census)

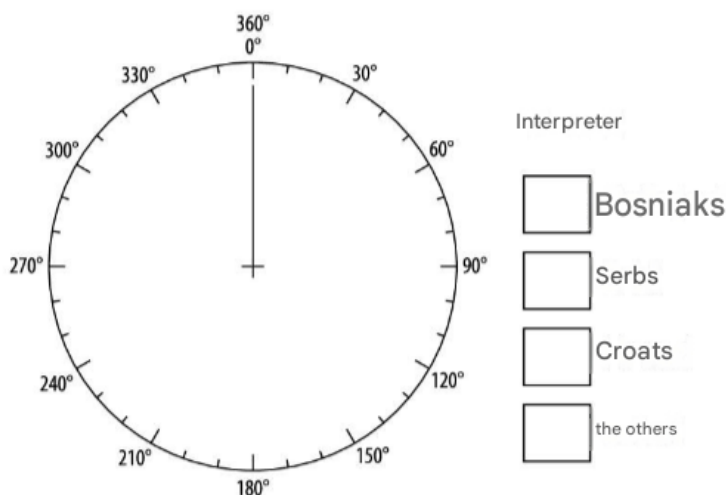


## GAME 2 – GEOGRAPHY (MOVEMENT 1)

9. Fill in the table with the missing share data: 50%, 31%, 15%

Serial number	People	Share in total population according to the 2013 census results
1.	Bosniaks	
2.	Serbs	
3.	Croats	
4.	others	4%

Using the data from the table, create a pie chart of the ethnic structure of the population of Bosnia and Herzegovina ( $3.6^\circ = 1\%$ ).













**What ordinal number is the constituent nation of Bosnia and Herzegovina, which makes up the smallest share of the total population according to the results of the 2013 census?**













Well done, you've successfully danced our Pi dance! If you followed the instructions carefully, you've found 9 tasks. Once you've solved them, do the following.

- Determine the sum of all the numbers obtained.
- Add 100 to the resulting sum.
- Look for the chest - the number you get is the code to open it!








### GAME 3 – MATHEMATICS 6<sup>TH</sup> GRADE - fractions (MOVEMENT 2)

SIMBOL	ZADATAK
	1. Determine the greatest common divisor of the numbers 132 i 315.
	2. Solve: $\frac{10}{3} : \frac{2}{7} - \frac{8}{3}$ ?
	3. How many times is $\frac{4}{3}$ <i>greater than</i> $\frac{2}{3}$ ?
	4. What number can we write as a fraction whose numerator is twice the denominator?
	5. Divide the greatest common measure of the numbers 48 and 64 by 2.
	6. Write the number that is the least common multiple of the numbers 12, 24, and 14. Determine the remainder of this number when divided by 9.
	7. Ivan decided to participate in a 5km running race. The race is run on a circular track and the race lasts 100 laps. How many decimeters will Ivan run in one lap?
	8. $7.1243 \text{ dm}^2 = x \text{ mm}^2$ . Write down the tens digit of $x$ .
	9. Write down the tens digit of What is the size of the angle enclosed by the hands of a clock if it is 12 hours and 40 minutes. The described angle is: 1. obtuse angle 2. right angle 3. acute angle
	10. Good job, you have successfully danced our Pi dance! If you followed the instructions carefully, you have found 9 tasks. Once you have solved them, do the following.  <ul style="list-style-type: none"> <li>• Determine the sum of all the numbers obtained.</li> <li>• Add 100 to the resulting sum.</li> </ul> <p>Look for the chest - the resulting number is the code to open it!</p>

### GAME 3 – MATHEMATICS 6<sup>TH</sup> GRADE - fractions (MOVEMENT 2)

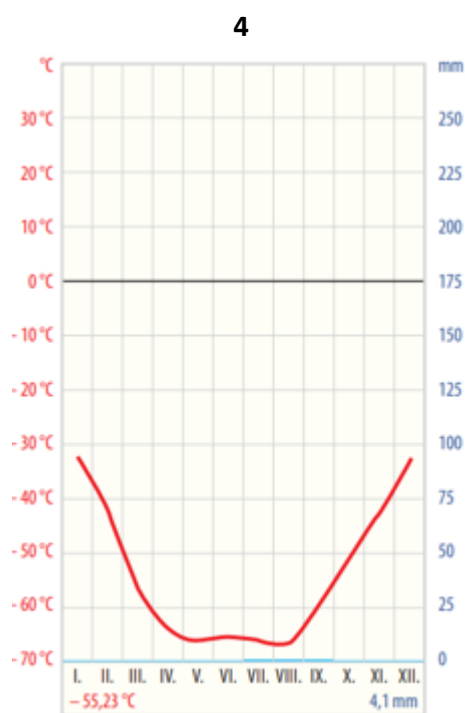
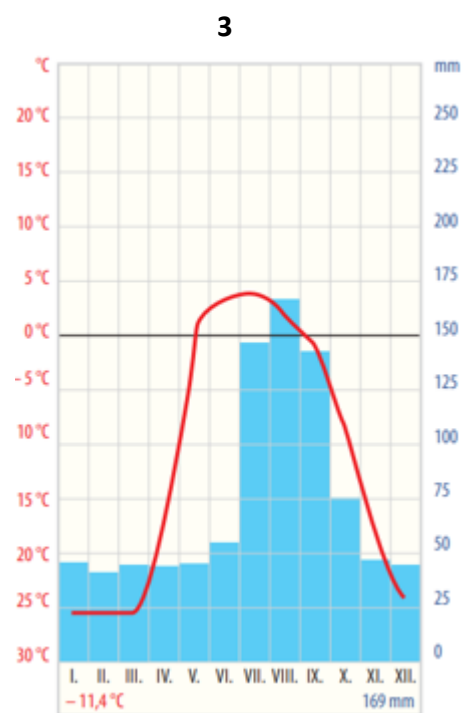
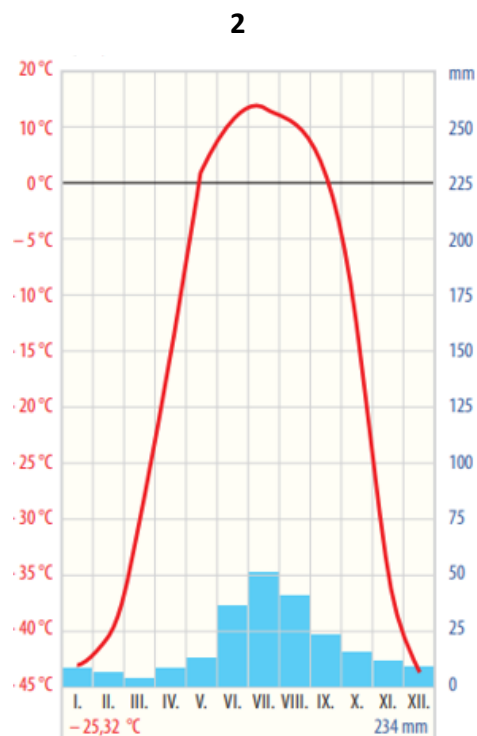
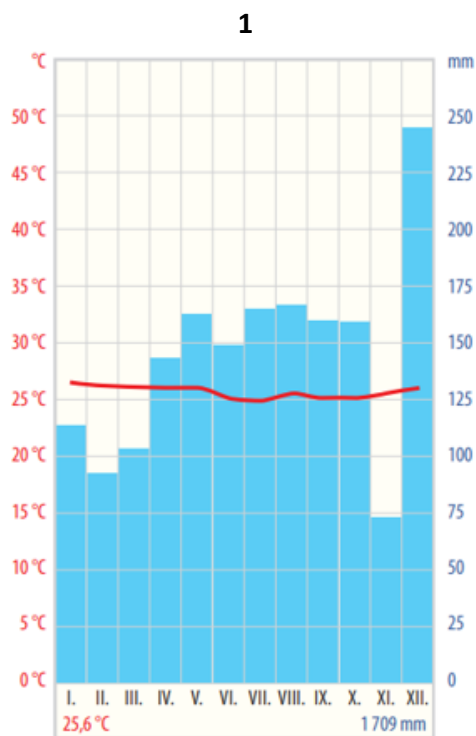
SIMBOL	LAŽNI ZADACI
	1. Determine the greatest common divisor of the numbers 198 i 315.
	2. Solve: $\frac{5}{3} : \frac{1}{7} - \frac{14}{3}$ ?
	3. How many times is $\frac{4}{3}$ <i>greater than</i> $\frac{1}{3}$ ?
	4. What number can we write as a fraction whose numerator is three times greater than the denominator?
	5. Which number is twice the greatest common measure of the numbers 48 and 12?
	6. Write the number that is the greatest common multiple of the numbers 15, 24, and 14. Determine the remainder of this number when divided by 11.
	7. Ivan decided to participate in a 6km running race. The race is held on a circular track, and the race lasts 100 laps. How many meters will Ivan run in one lap?
	8. $8.7516 \text{ dm}^2 = x \text{ mm}^2$ . Write down the tens digit of x.
	9. Write down the tens digit of What is the size of the angle enclosed by the hands of a clock if it is 8 hours and 0 minutes. The described angle is: 1. obtuse angle 2. right angle 3. acute angle
	10. Good job, you have successfully danced our Pi dance! If you followed the instructions carefully, you have found 9 tasks. Once you have solved them, do the following.  • Determine the sum of all the numbers obtained. • Add 100 to the resulting sum.  • Look for the chest - the resulting number is the code to open it!

## GAME 4 – EARTH’S CLIMATE (MOVEMENT 1)

	<p><b>1. What number indicates the climate class in which you live?</b></p> <ol style="list-style-type: none"> <li>1. Tropical rainy climates (A)</li> <li>2. Dry climates (B)</li> <li>3. Moderately warm rainy climates (C)</li> <li>4. Snow-forest climates (D)</li> <li>5. Snowy climates (E)</li> </ol>
	<p><b>2. The following air temperatures were measured at the meteorological station:</b></p> <ul style="list-style-type: none"> <li>• at 7 o'clock: 5 °C</li> <li>• at 2 p.m.: 15 °C</li> <li>• at 9 pm: 8 °C</li> </ul> <p><b>Calculate the average daily air temperature.</b></p>
	<p><b>4. What number is used to designate the natural plant cover in areas with a Mediterranean climate?</b></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p><b>1</b></p>  </div> <div style="text-align: center;"> <p><b>2</b></p>  </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;"> <p><b>3</b></p>  </div> <div style="text-align: center;"> <p><b>4</b></p>  </div> </div>

### GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)

3. What number is the climate diagram that shows the largest temperature amplitude marked with?

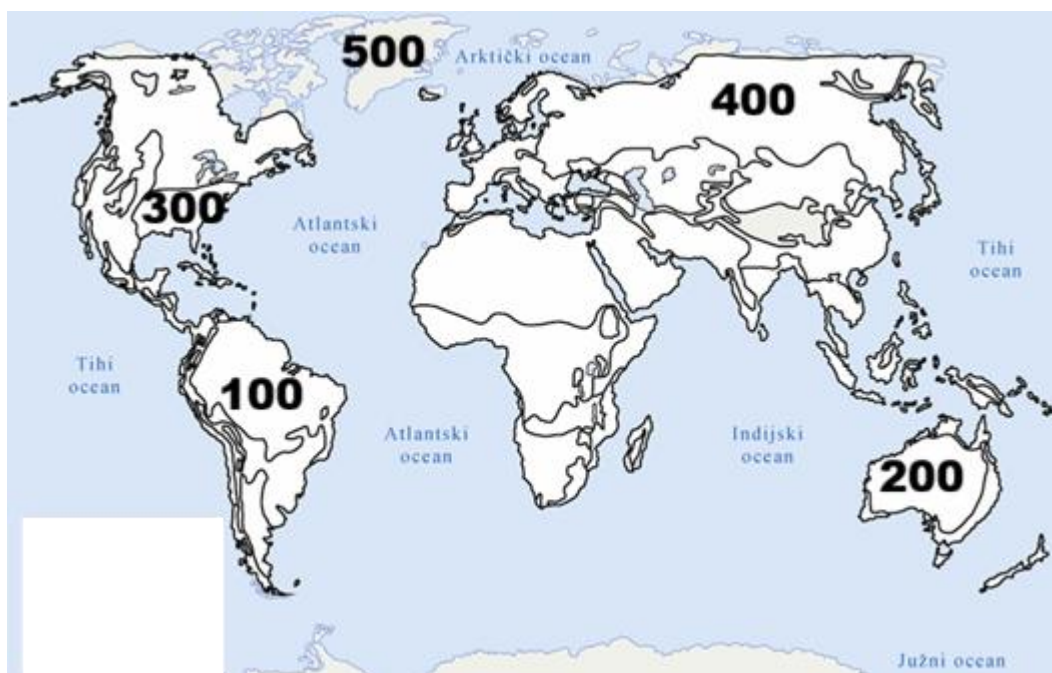


**5. Read the statements and circle the number in front of the one that describes the characteristic of the Sinian climate.**

1. The average monthly air temperature is never lower than 18 °C and there is no dry period in the year.
2. Steppes, plant communities of short grasses, predominate.
3. Mild and rainy winters and dry and hot or warm summers.
4. Long and cold winters and short and cool summers.
5. High air temperatures and very little precipitation (drought).
6. Tundra prevails.
7. Low temperatures and low rainfall throughout the year. The average air temperature of the warmest month is lower than 10°C.
8. Mild and dry winters, humid and hot summers.
9. Precipitation is evenly distributed throughout the year.

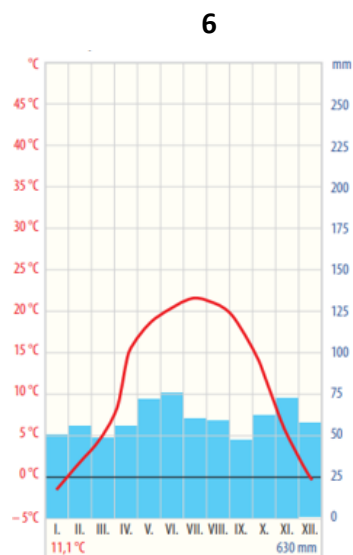
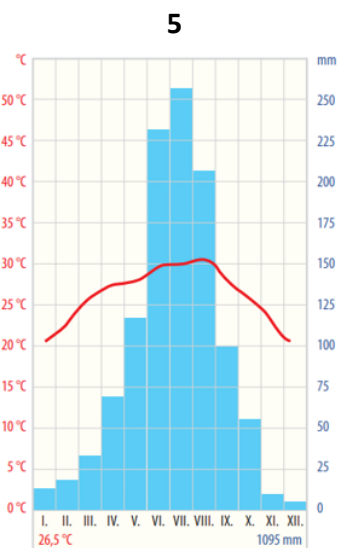
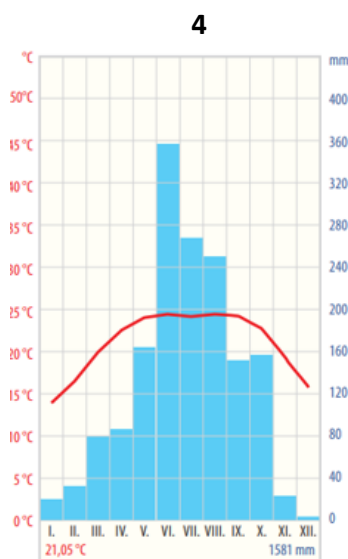
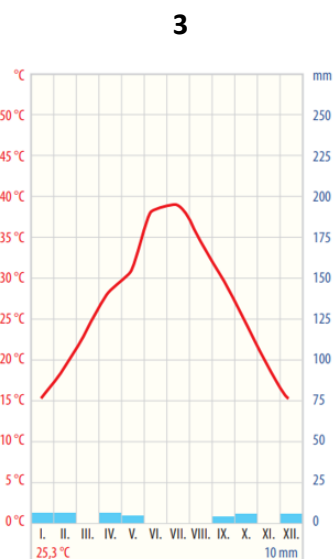
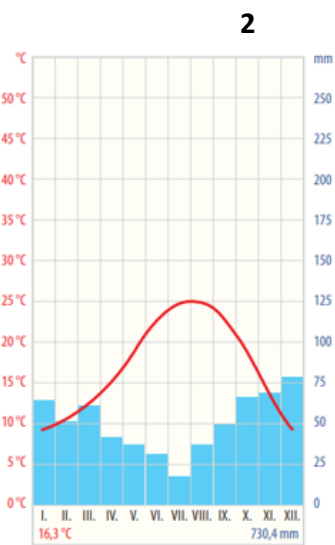
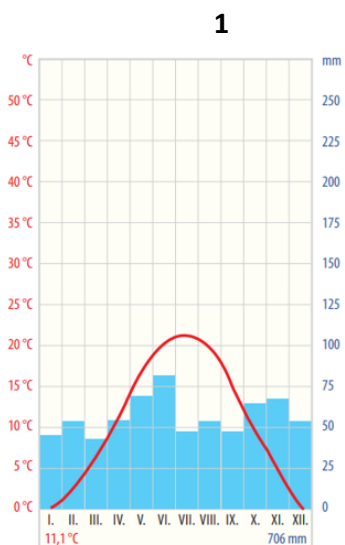


**7. What number is used to designate climate class E?**


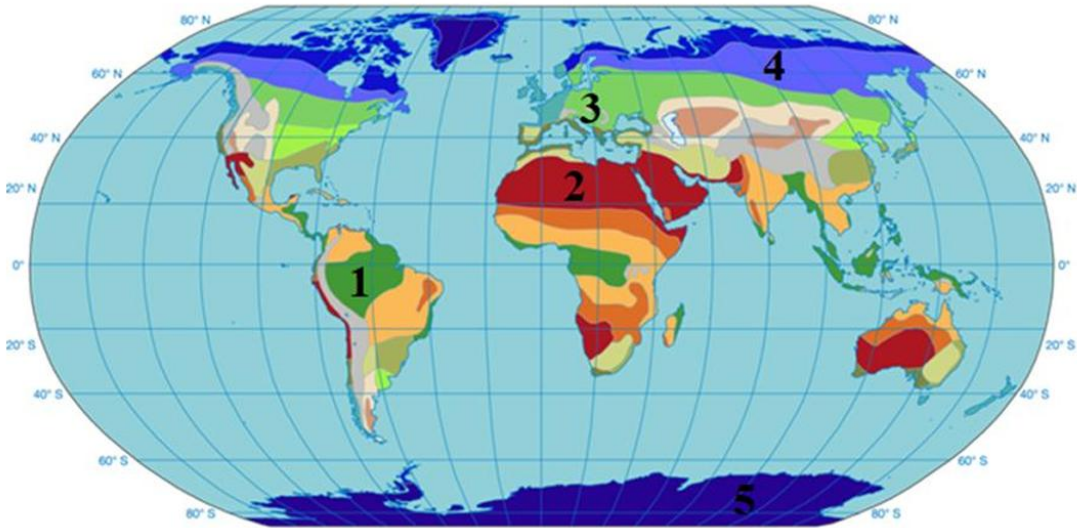




## GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)





6. What number is the climate diagram showing the Cf climate marked with?



## GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)

	<p><b>8. What number on the attached map indicates the area where taiga predominates?</b></p> 
	<p><b>9. Recognize the natural landscape!</b></p> <p>This natural landscape is characterized by tall grasses, sparse individual trees and shrubs, and develops in areas with alternating rainy and dry periods. It is most widespread in tropical and subtropical regions, especially in Africa, and is a typical habitat for giraffes, zebras, elephants and lions. The vegetation is adapted to drought and occasional fires.</p> <p><b>To which type of natural landscape does this description belong? Write the number in front of the correct answer on the answer sheet.</b></p> <ol style="list-style-type: none"> <li>1. savanna</li> <li>2. steppe</li> <li>3. tundra</li> <li>4. taiga</li> </ol>
	<p>Well done, you've successfully danced our Pi dance! If you followed the instructions carefully, you've found 9 tasks. Once you've solved them, do the following.</p> <ul style="list-style-type: none"> <li>- Determine the sum of all the numbers obtained.</li> <li>- Add 100 to the resulting sum.</li> <li>- Look for the chest - the number you get is the code to open it!</li> <li>-</li> </ul>

## GAME 4 – EARTH’S CLIMATE (MOVEMENT 1)

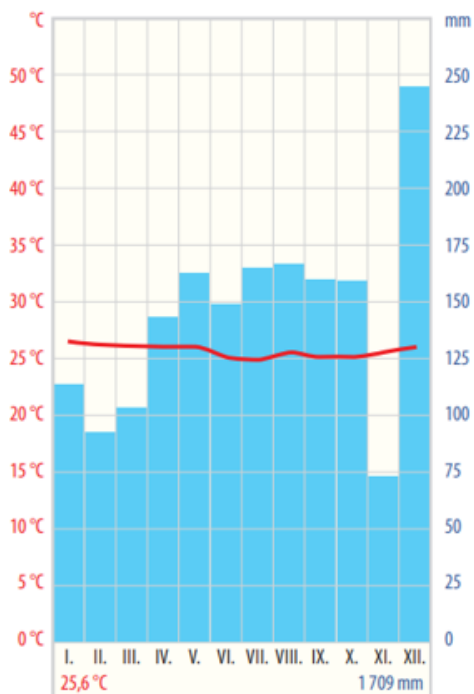
<p style="text-align: center;">○</p>	<p><b>1. . What number is used to designate a climate class that is not represented in the Southern Hemisphere?</b></p> <ol style="list-style-type: none"> <li>1. Tropical rainy climates (A)</li> <li>2. Dry climates (B)</li> <li>3. Moderately warm rainy climates (C)</li> <li>4. Snow-forest climates (D)</li> <li>5. Snowy climates (E)</li> </ol>
<p style="text-align: center;">■</p>	<p><b>2. The following air temperatures were measured at the meteorological station:</b></p> <ul style="list-style-type: none"> <li>• at 7 o'clock: 8 °C</li> <li>• at 2 p.m.: 18 °C</li> <li>• at 9 pm: 11 °C</li> </ul> <p><b>Calculate the average daily air temperature.</b></p>
<p style="text-align: center;">♡</p>	<p><b>4. What number is used to designate the natural plant cover in areas with a rainforest climate?</b></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p><b>1</b></p>  </div> <div style="text-align: center;"> <p><b>2</b></p>  </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 20px;"> <div style="text-align: center;"> <p><b>3</b></p>  </div> <div style="text-align: center;"> <p><b>4</b></p>  </div> </div>

## GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)

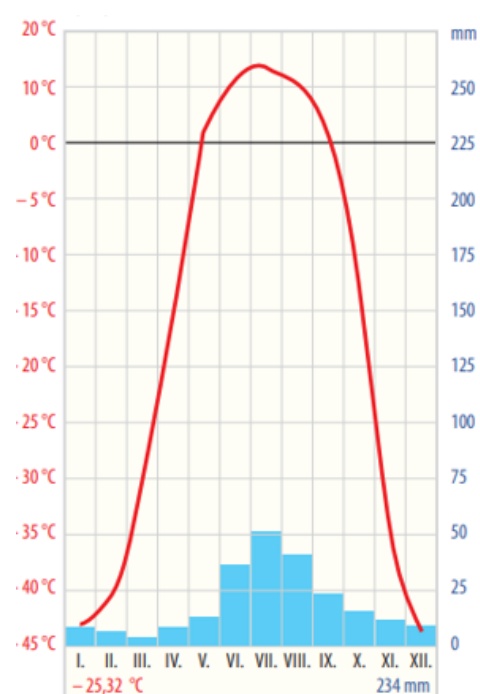
3. What number is the climate diagram that shows the smallest temperature amplitude marked with?



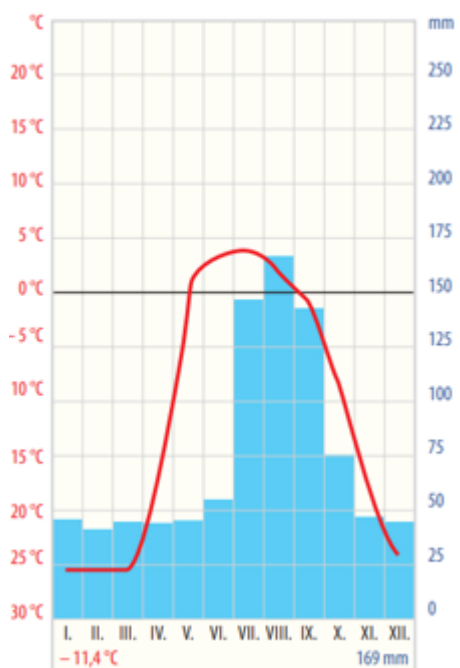
1



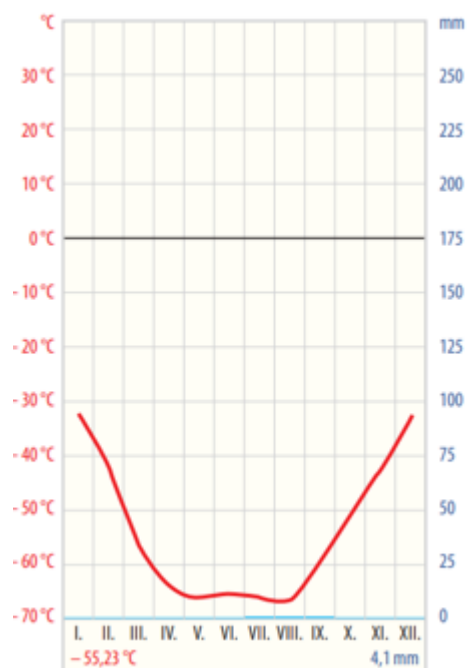
2



3



4

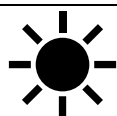


## GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)

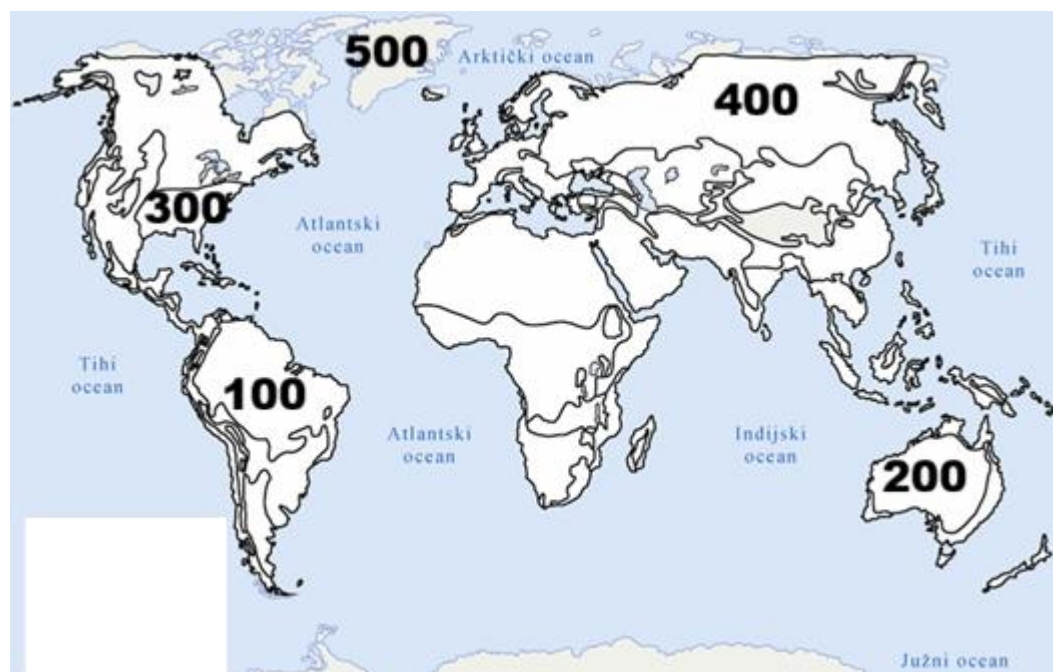


**6. Read the statements and circle the number in front of the one that describes a characteristic of the Mediterranean climate.**

1. The average monthly air temperature is never lower than 18 °C and there is no dry period in the year.
2. Steppes, plant communities of short grasses, predominate.
3. Mild and rainy winters and dry and hot or warm summers.
4. Long and cold winters and short and cool summers.
5. High air temperatures and very little precipitation (drought).
6. Tundra prevails.
7. Low temperatures and low rainfall throughout the year. The average air temperature of the warmest month is lower than 10°C.
8. Mild and dry winters, humid and hot summers.
9. Precipitation is evenly distributed throughout the year.



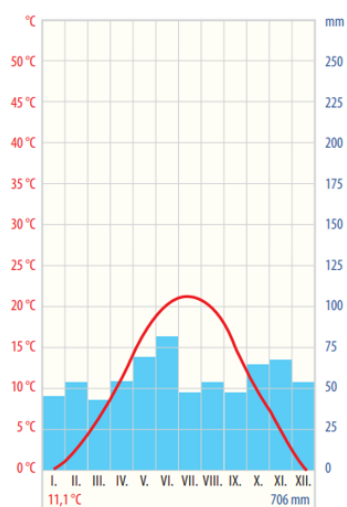
**7. What number is used to designate climate class B?**



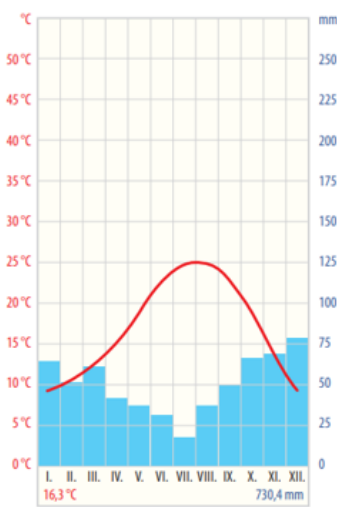
## GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)

6. What number is the climate diagram showing a Cs climate marked with?

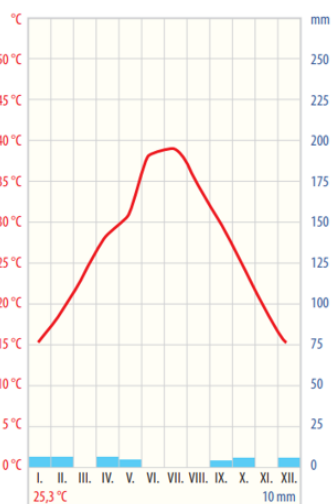
1



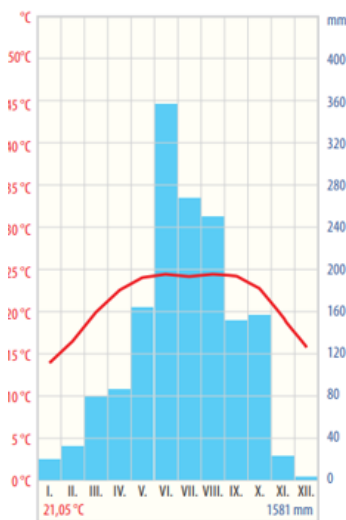
2



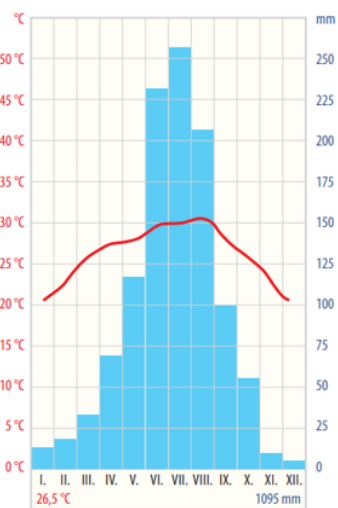
3



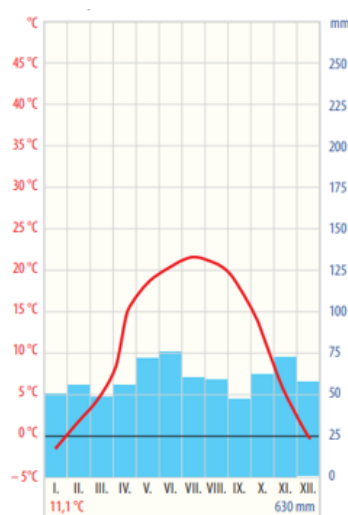
4




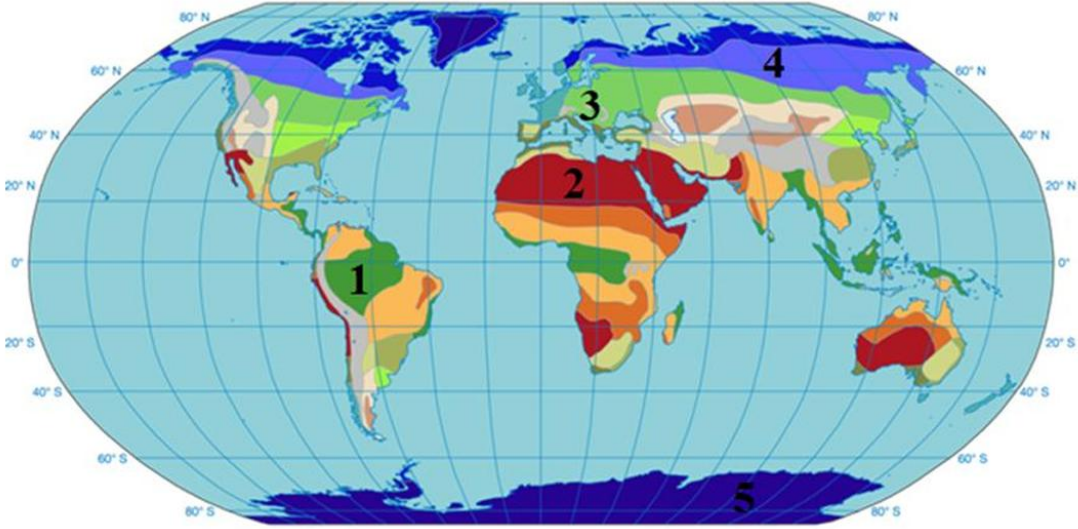


5



6













## GAME 4 – KLIMA NA ZEMLJI (MOVEMENT 1)

	<p><b>8. What number on the attached map indicates the area dominated by deciduous forest?</b></p> 
	<p><b>9. Recognize the natural landscape!</b></p> <p>This natural landscape is characterized by low grasses. It is suitable for the development of agriculture, especially livestock farming. It is rich in game such as deer, rabbits and wild boars, but also bison and horses, which are often bred by nomadic peoples.</p> <p><b>To which type of natural landscape does this description belong? Write the number in front of the correct answer on the answer sheet.</b></p> <ol style="list-style-type: none"> <li>1. savanna</li> <li>2. steppe</li> <li>3. tundra</li> <li>4. taiga</li> </ol>
	<p>Well done, you've successfully danced our Pi dance! If you followed the instructions carefully, you've found 9 tasks. Once you've solved them, do the following.</p> <ul style="list-style-type: none"> <li>- Determine the sum of all the numbers obtained.</li> <li>- Add 100 to the resulting sum.</li> <li>- Look for the chest - the number you get is the code to open it!</li> <li>-</li> </ul>

## SOLUTIONS











### GAME 1 – MATH PUZZLES

For game 1, movement rule 1 was used. It starts with paper number 14 and the papers that are on the path that the figure passes in 24 steps are numbered 4, 9, 10, 14, 15, 16, 22, 23, 25, 26, 27, 28, 29, 34, 35, 41, 42.

NUMBER	SYMBOL	SOLUTION
4		$6 + 5$ (PLAVA) = 11
16		3
22		3
29		5
28		$6 = (17-15)*3$
26		MISSING NUMBER - 3
25		8
34		384
41		9
42		$22+6+30+20+16+2+32+50+5=635$











## GAME 2

For game 2, movement rule 1 was used. It starts with paper number 14 and the papers on the path the figure takes in 24 steps are numbered 4, 9, 10, 14, 15, 16, 22, 23, 25, 26, 27, 28, 29, 34, 35, 41, 42.

NUMBER	SYMBOL	SOLUTION
4		3
16		9
22		2
29		2
28		8
26		6
25		500
34		4
41		1
42		$3+9+2+2+8+6+500+4+1=535.$ $535+100=635.$











### GAME 3 – MATHEMATICS 6<sup>TH</sup> GRADE - fractions (MOVEMENT 2)

For game 3, movement rule 2 was used. It starts with paper number 23 and the papers on the path the figure takes in 24 steps are numbered 6, 11, 12, 16, 17, 18, 20, 21, 22, 23, 27, 28, 29, 34.

NUMBER	SYMBOL	SOLUTION
17		$132=2*2*3*11$ , $315=5*3*3*7$ , $NZD(132,315)=3$
11		9
6		2
16		2
22		$NZM(48,64)=16$ , $16/2=8$
29		$12=2*2*3$ , $24=2*2*2*2*3$ , $14=2*7$ , $NZV(12,24,14)=24*7=168$ . Remainder is 6
28		$5\text{km}=50000\text{dm}$ . $50000\text{dm}/100=500\text{m}$ . One leap is 500m.
34		$X=71243$ , tens unit is 4
27		31
22		$3+9+2+2+8+6+500+4+1=535$ . $535+100=635$ .

## GAME 4 – KLIMA NA ZEMLJI

For game 4, movement rule 1 was used. It starts with paper number 14 and the papers on the path the figure takes in 24 steps are numbered 4, 9, 10, 14, 15, 16, 22, 23, 25, 26, 27, 28, 29, 34, 35, 41, 42.

NUMBER	SYMBOL	SOLUTION
4		3
16		9
22		2
29		2
28		8
26		6
25		500
34		4
41		1
42		$3+9+2+2+8+6+500+4+1=535.$ $535+100=635.$