

# Bulgarian Math Walk

SU “Zheleznik” is the youngest school in Stara Zagora. It was established in 1987. 700 students from 1<sup>st</sup> to 12<sup>th</sup> grade study in it. Here is our task:

## **Task 1.**

Maria and George study in the same class. If all of them stay in a column, there will be 16 students behind Maria, including George, and there will be 14 students in front of George, including Maria. There are 4 boys and 3 girls between George and Maria. How many students are there in this class?

Neolithic dwellings - How the real-life Flintstones lived? The area around Stara Zagora was inhabited since the Neolithic era (late VII – VI millennium B.C.). Even these inhabitants did not live in caves but instead were building houses, some of them with two storeys, inhabited by multiple families. Luckily, one of these houses has been preserved until nowadays and tells a whole wonderful story of the life 8000 years ago.

This archaeological site is dated to the 6th Millenium BC – the New Stone Age, or Neolithic. The dwelling was built from wooden stakes fixed in the ground, interwoven with rods. The construction was coated with a mixture of clay and straw. It is thought that the buildings were located in the central part of the prehistoric settlement.

This “organic” construction style was not very long-lasting through history and this is why there are very few constructions from this era that survived so far. It is thought that the Neolithic dwellings in Stara Zagora survived because of a fire. When fire burns the clay, it becomes ceramics which is more lasting than clay itself. It is believed that this prehistoric settlement was burned by intruders and all of its inhabitants escaped without taking anything from their homes. This is how the walls of the dwelling in Stara Zagora were burned and turned into ceramics that survived until nowadays.

## **Task 2**

A potter sold pottery. One day an old woman came to buy one pot for her kitchen. For that she paid €1 and half of the price of the pot. How much does the pot cost?

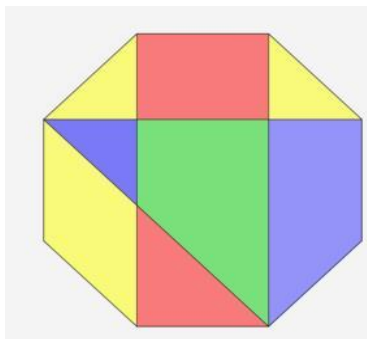
### The Roman Amphitheatre in Stara Zagora

A very big part of the antique city of Augusta Traiana can be seen in the very centre of Stara Zagora (just behind the Palace of Justice and the Old Theatre) including the Forum of the antique city with the remains of an Amphitheatre, thermal baths, city walls, the Western gate and part of the main trading street. The Forum has been the most important place in the ancient town of Augusta Traiana which used to be a part of the Roman province Thracia. The Amphitheatre has been situated in the central fortifying part of the settlement and also has been a centre where the leaders of the local government have been making their meetings and discussions over the problems of the town.

Nowadays the Amphitheatre has been restored and there are comfortable seats for visitors just opposite the forum. The landmark became a stage for many opera, ballet and theatre performances, such as 'Carmen', 'Aida', 'Atilla' and many others.

### **Task 3.**

Emperor Trajan ordered his craftsman to make him a buckler in the shape of regular octagon. The buckler has to be symbolically painted in four colours in the same size:



• Yellow – the colour of justice

• Red – the colour of courage

• Blue – the colour of wisdom

• Green – the colour of joy

When the emperor saw the design, which you can see in the picture, he thought that there was more braveness than wisdom and more joy than justice? What do you

think?

The Regional Museum of History in Stara Zagora is a beautiful building with an original architecture. It is a good place to dive into the history of Stara Zagora. The whole city is built on top of ancient cities covering other more ancient villages. It makes you feel you are in Augusta Traiana in the early centuries after Christ. The highlight is the basement, where part of the roman road has been preserved in such a way that you can walk along the Roman high street imagining yourself walking in the footsteps of the Romans who lived there 2000 years ago. You are surprised to find out some of the old and rich history of Bulgaria.

It has one of the world's richest collections of prehistoric art (including two Neolithic dwellings, the best preserved in Europe); interesting collections of antique bronze and glass objects, numismatic collections of local and imported coins, and the remains of more than 30 Thracian chariots.

#### **Task 4.**

The treasurer of a king had 100 craftsmen. Every day he gave each of them 1 kg of gold to make 100 coins which weigh 10grams. After a day he realized that one of the workers made 9 grams coins and stole the left part of the gold. The treasurer thought about that and found a way how to find the thief. He weighed coins just once. How did he do that?

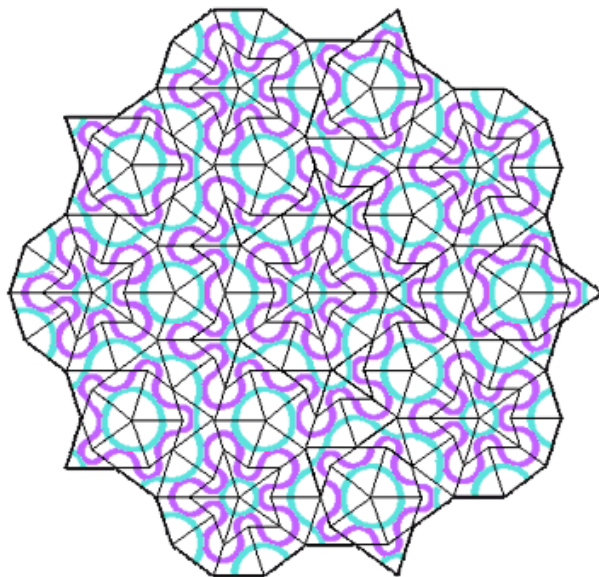
The mosque- this is the museum of religions in Stara Zagora

It is a unique place for many reasons. It is the building of the old mosque, which today is a visited museum, which is the only surviving building from the burning of the city during the Russian-Turkish War.

Even more interesting is the fact that inside the mosque are kept the foundations of a medieval Christian church from the 10th century and Thracian sanctuary from the Roman era, 2-nd – 3rd century. The ruins were preserved from destruction in 1408 when the mosque was completed, although this contradicts the tenets of Islam.

#### **Task 5**

How many circles are there in the figure - part of the images in a mosque?



The memorial complex "Stara Zagora's Defenders", also called 'Samarsko Zname' was built in 1977 to commemorate soldiers who died in the war for the liberation of Bulgaria. It is a concrete construction, 50 m high. It looks like a waving flag, the same as the Samara flag of the volunteer soldiers, who fought in the war. Next to it there are six concrete figures of Bulgarian and Russian soldiers, there is an ossuary and a fire, shaped with bayonets. There are 100 steps to the monument.

**Task 6.** Once a grandfather was asked: 'How many wars did you take part in? He answered: „The number is the same as  $\frac{1}{27}$  of my age, or  $\frac{1}{7}$  of the age of one of my grandsons, or the same as the age of his son. I am in my early nineties. How many wars did the old man took part in?

Zagorka is a lake located in Bedechka Park in the northeastern part of Stara Zagora. In the lake, there are boats and water bikes, wooden houses float in the water for over 100 wild ducks and other waterfowl that live and breed in them. Every year, competitions are held for sport fishing, modelships, triathlon and other water sports. In the park near the lake there is a 670-year-old platan (plane tree), which is famous all over Bulgaria.

**Task 7.**

A fisherman went fishing. A boy asked him how many fish he had caught and he replied, "the number eight without its half, the number six without its head and the number nine without its tail." How many fish did he catch?