



**B-Test S5**

**Year: 2020-2021**

**Semester 2**

Surname, First name :

Class: S5MA4ENA

Subject: Mathematics 4 periods

Name of teacher: Mrs. Duminičă

Date : 2 June 2021

Time Allowed (in hours/minutes): 45 minutes

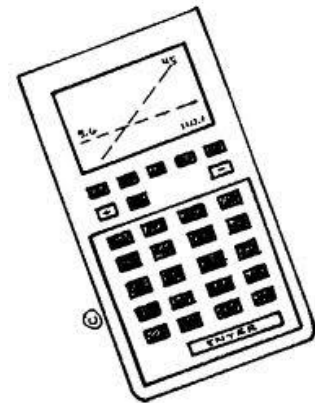
Authorised Materiel : Geometry Equipment

**ONLY A SCIENTIFIC CALCULATOR IS ALLOWED.**

Instructions or special remarks: **Answer the questions in the blank spaces. If you need more space you can insert extra sheets, with your name and the questions number in the correct place.**

**SHOW YOUR WORKING AND GIVE EXPLANATIONS FOR YOUR ANSWERS FOR ALL QUESTIONS!**

/25





1. Below you will find information about temperatures in Greece and Sweden. The information for one of the countries is in Table 1:

Table 1

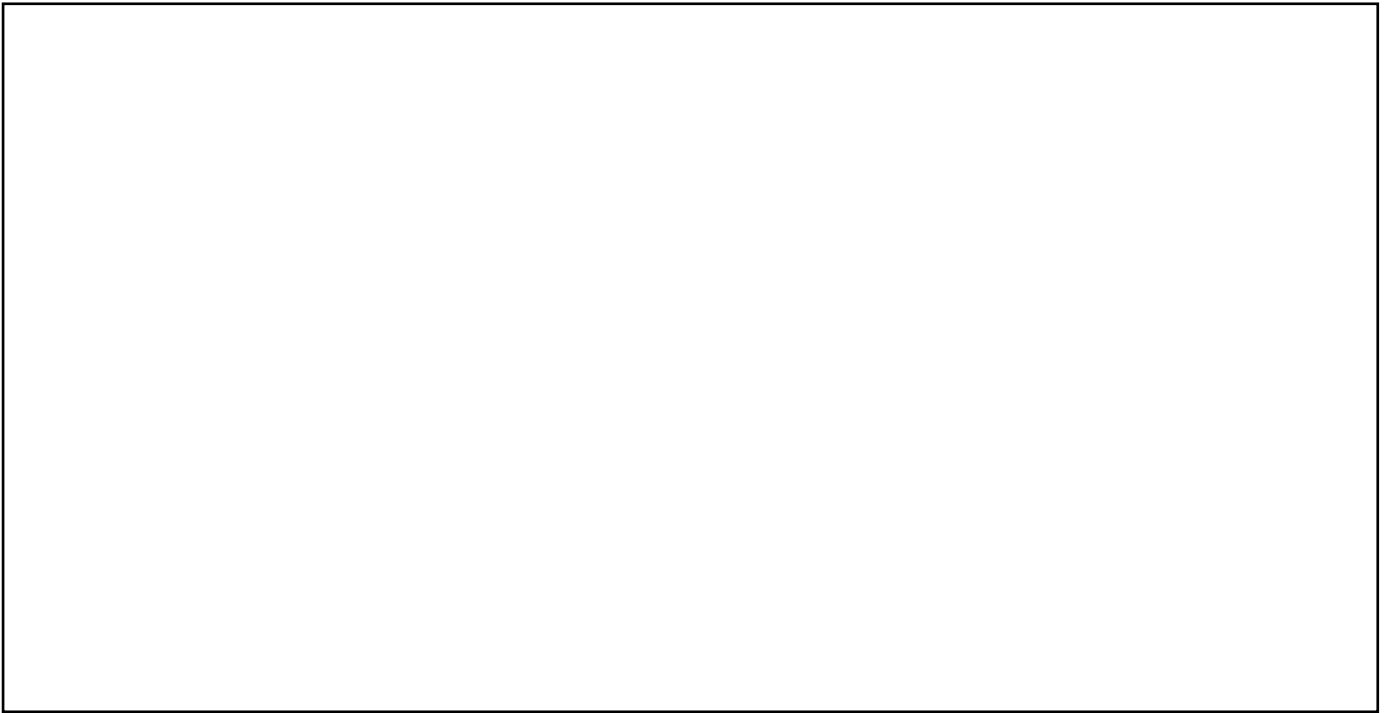
Month	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	-2	-2	1	6	10	14	18	17	13	7	4	0

For the other country, we know the information below:

Table 2

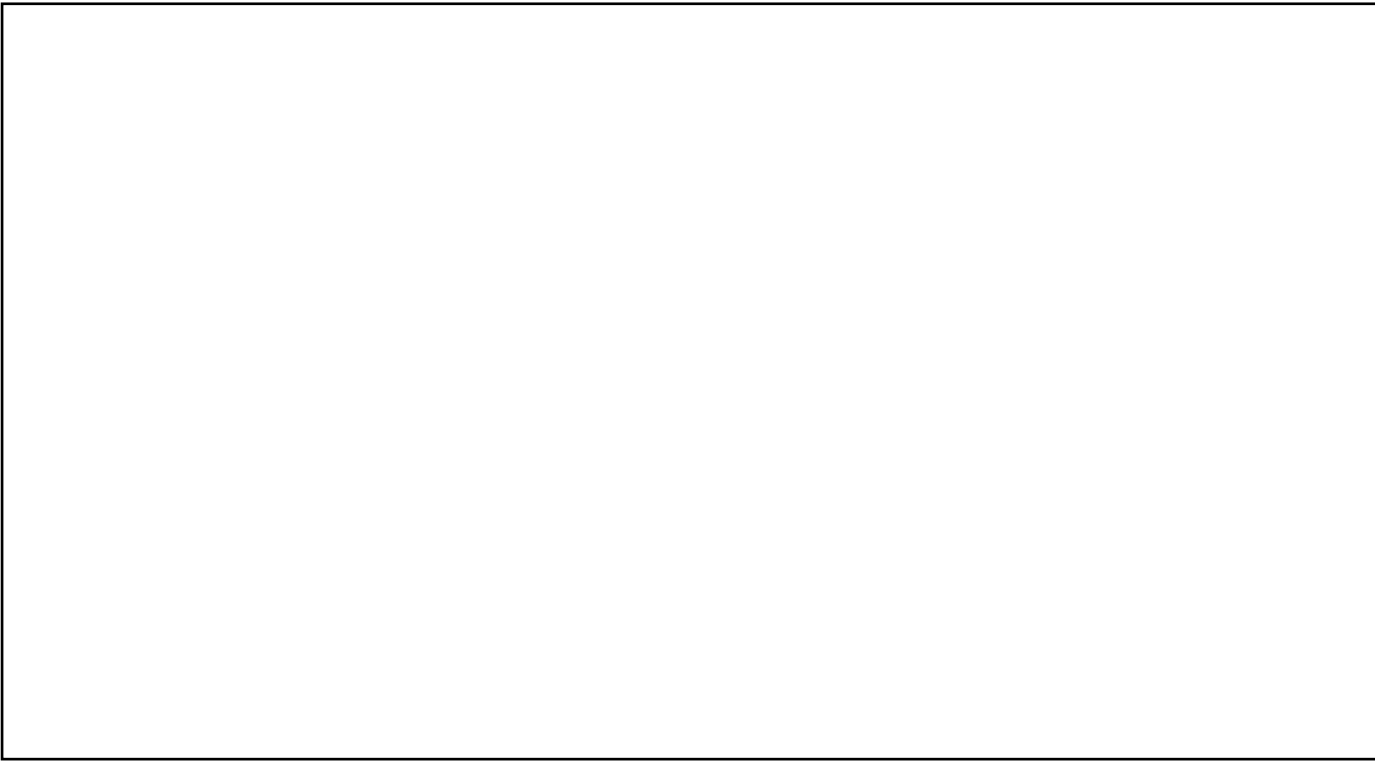
Mean (°C)	19
Median (°C)	19
Mode (°C)	25
Range (°C)	18
Interquartile range (°C)	10

- Calculate the mean, median, mode and interquartile range for the data set given in Table 1. (Show your working) (4 pts)
- Using statistical data, which of the data sets is for Sweden and which one is for Greece? Explain your choice. (2 pts)
- In which country the temperatures are more homogenous? Explain why. (2 pts)

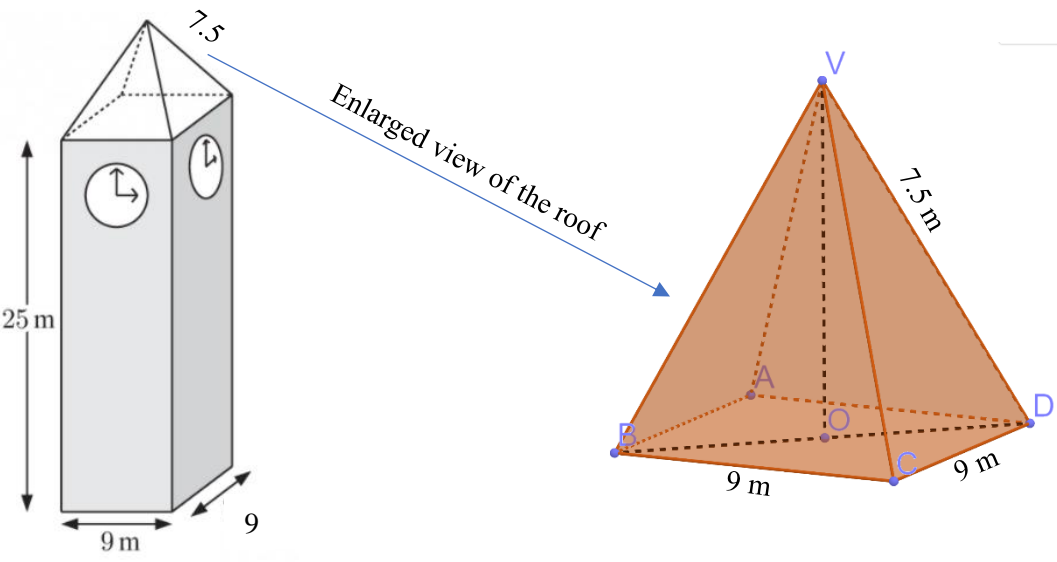


2. The owner of a house has a red key ring and a green one.  
There are three keys on the red one and five keys on the green one.  
There is only one key on each key ring that will open the door of the house.  
The owner of the house randomly picks one of the key rings and then randomly chooses one of the keys.
- a) Draw a tree diagram illustrating the experiment. (do not forget to write the probability for each branch) (3 pts)
  - b) Calculate the probability that the chosen key will open the door of the house. (2 pts)
  - c) Given that the key is not opening the door, find the probability that the owner chose the red key ring. (3 pts)





3. A clock tower has the dimensions shown. The lateral edge of the pyramid (the roof of the tower) is 7.5 m long.  
For every question, you have to show your working and give reasons for your answers.



- a) Compute the diagonal BD, to the nearest cm. (2 pts)
- b) Find the height of the pyramid, to the nearest cm. (2 pts)
- c) Find the total volume of the clock tower, to the nearest  $m^3$ . (2 pts)
- d) Find how much paint we need for the roof, if we use 0.1 litres for each  $m^2$ . (3 pts)

