

# Sirma Academy

## Entry Test

Общ брой точки 8/13 ?

You have 30 minutes to complete the test. Enter the email you used to apply in order to receive a message with your results and to find out if you have been successfully admitted to Sirma Academy.

Имейл адресът на отговарящия (ivanovsvilen88@gmail.com) бе записан при изпращането на този формуляр.

0 от 0 точки

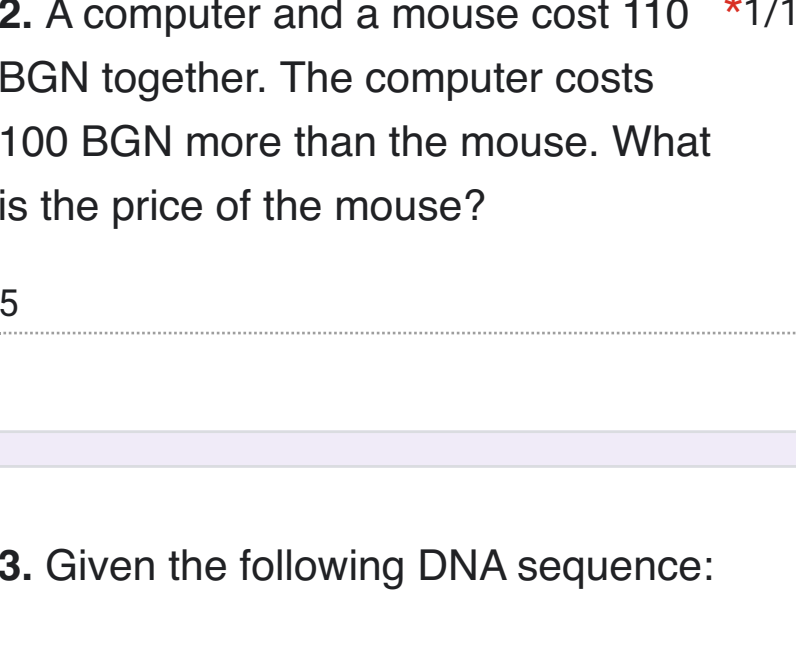
Enter the email you used to apply. \*

ivanovsvilen88@gmail.com

2 от 2 точки

1. A robot is programmed through a series of commands using the arrows "left", "right", "up", "down". Each command either moves the robot one square in the indicated direction (if such movement is possible) or does not move the robot (if movement in the indicated direction is impossible).

The robot receives a series of four commands that are repeated, i.e., after the fourth command is executed, it starts over from the beginning.



1. What is the series of four commands that will lead the robot to the square labeled "OUT"? In the series, you can repeat the same command. Use the commands: left(L), right(R), up(U), down(D), separated by a dash(-) **Example: L-L-L-L**

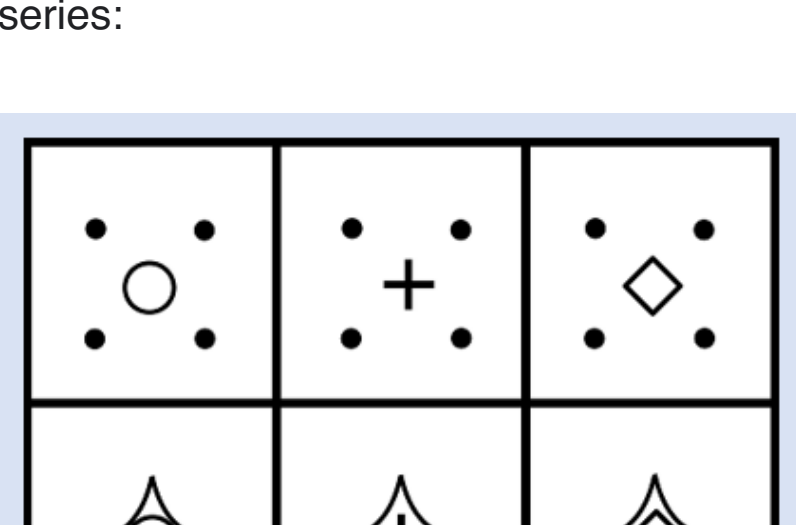
L-L-D-R

1 от 2 точки

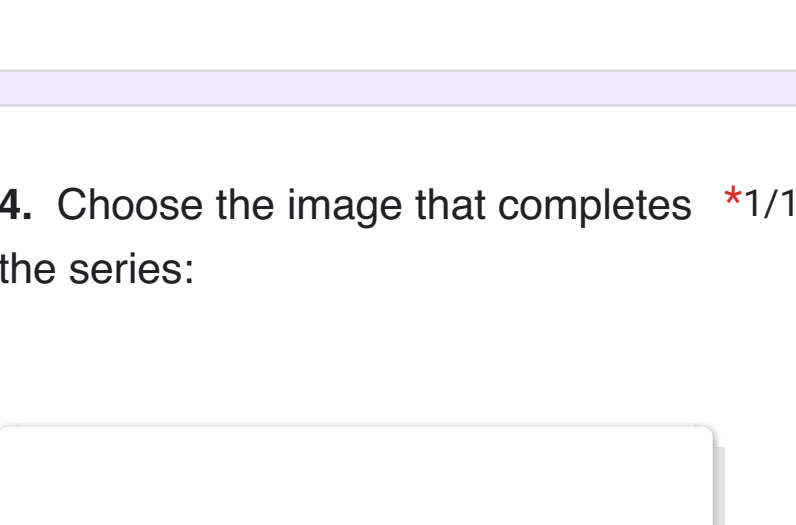
2. A computer and a mouse cost 110 BGN together. The computer costs 100 BGN more than the mouse. What is the price of the mouse?

5

3. Given the following DNA sequence:



We want to obtain a new DNA sequence:



By applying only the following operations:

- **Swap()**: exchanges all occurrences of the specified two letters. For example: Swap(A, G) will transform the sequence AAGT into GGAT.
- **Insert()**: inserts a specified letter at the beginning of the sequence. For example: Insert(A) will transform the sequence GT into AGT.
- **Delete()**: deletes all occurrences of the specified letter. For example: Delete(A) will transform the sequence AAGT into GT.

3. Which sequence of operations will change the original DNA into the desired one?

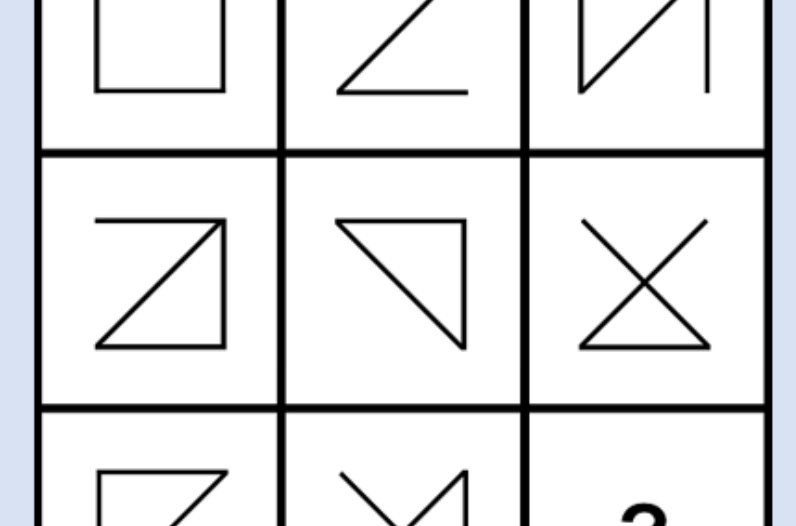
- ☐ Swap (C, T); Insert (T); Delete (G)
- ☐ Insert (T); Swap (C, T); Delete (G)
- ☒ Insert (T); Delete (G); Swap (C, T)
- ☐ Delete (G); Insert (T); Swap (C, T)

1 от 3 точки

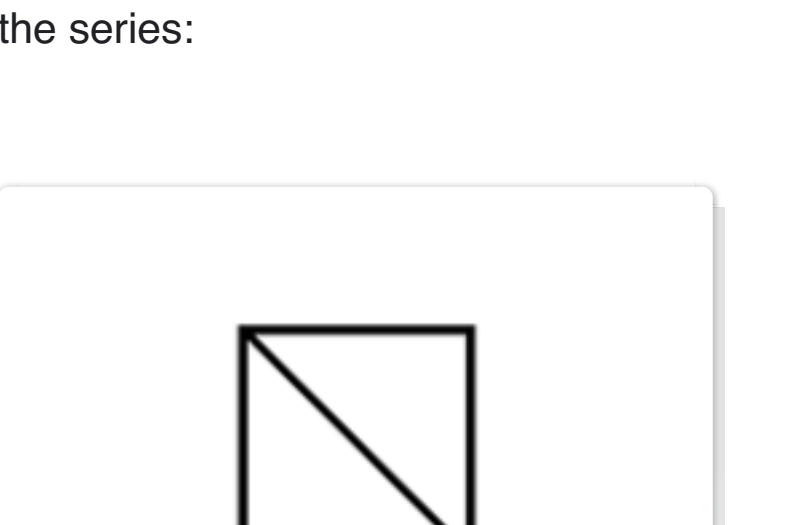
4. Choose the image that completes the series:



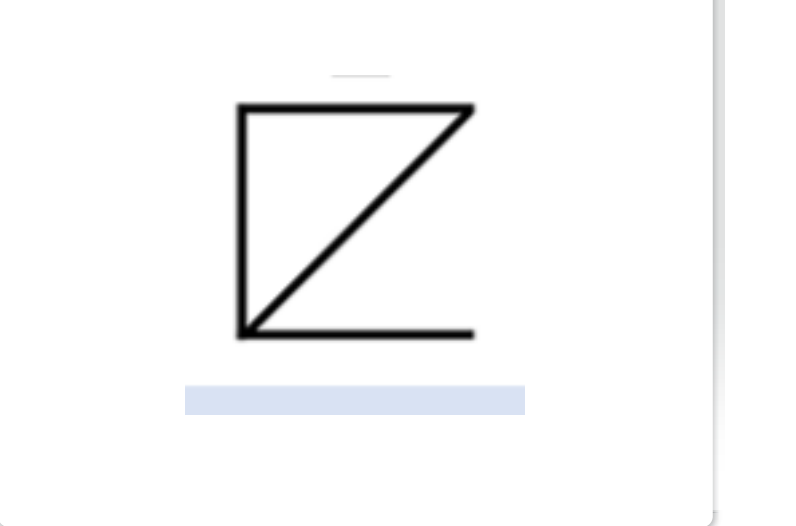
4. Choose the image that completes the series: \*



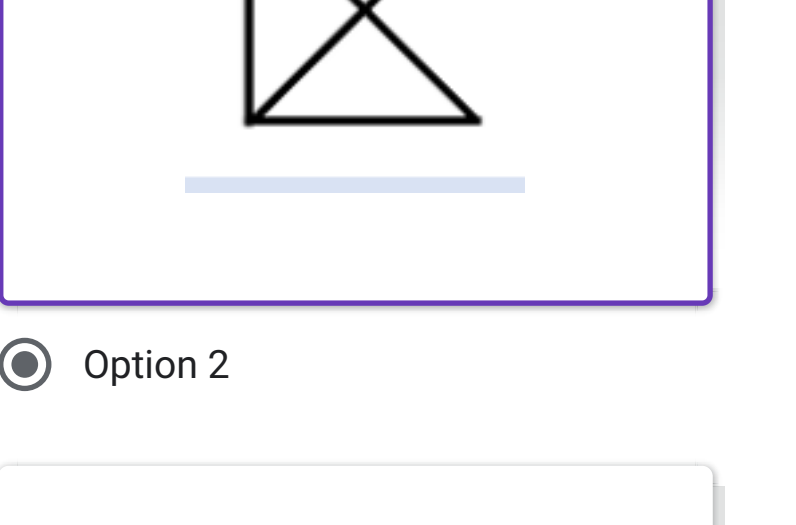
☐ Option 1



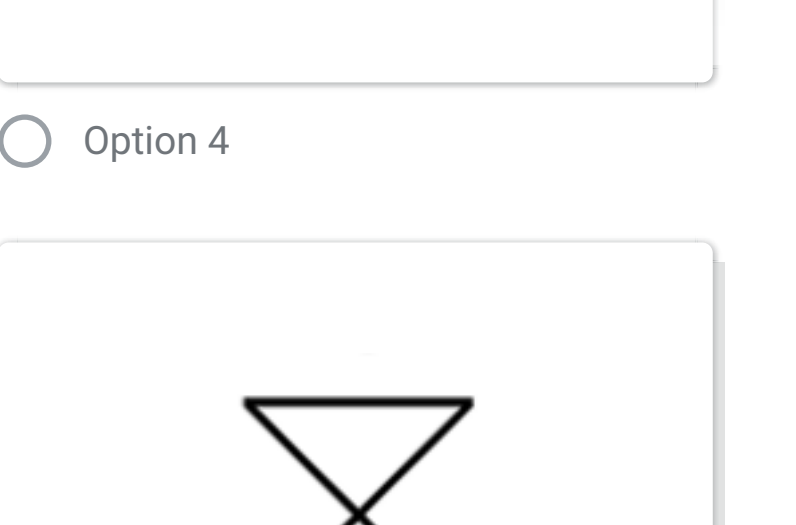
☐ Option 3



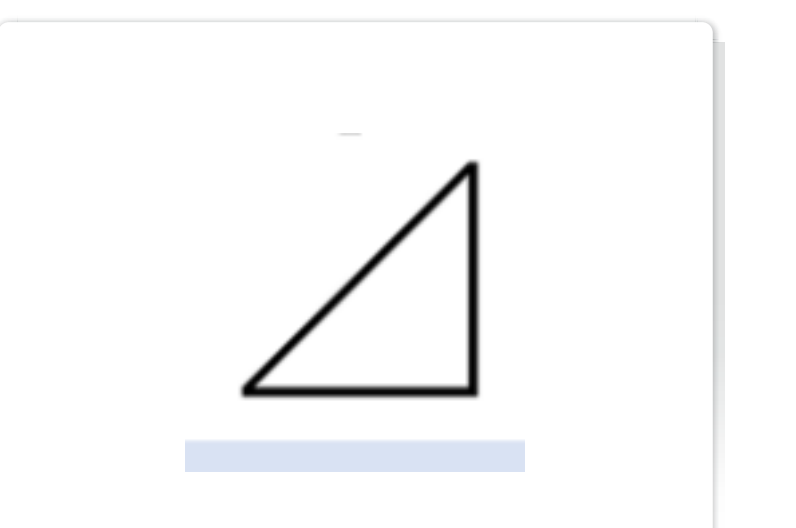
☐ Option 4



☒ Option 5

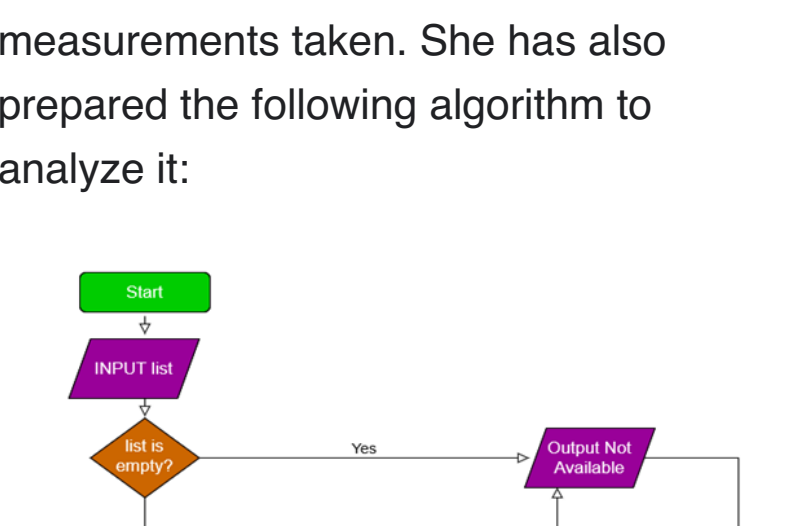


☐ Option 2

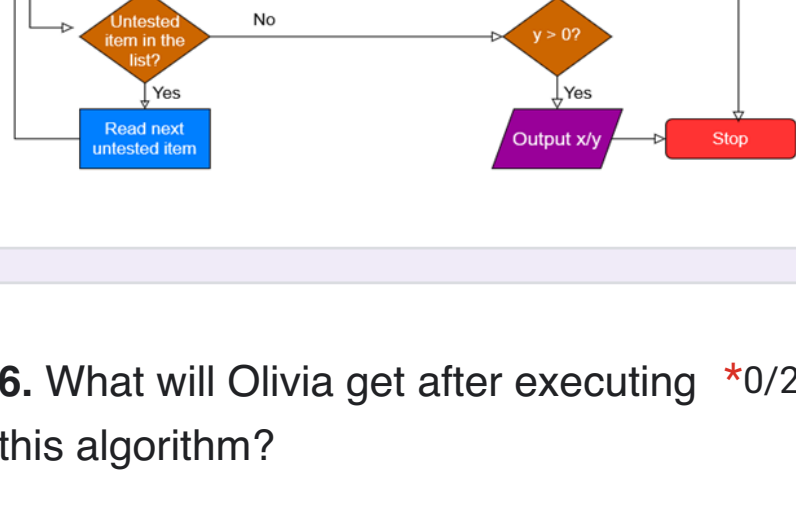


☐ Option 6

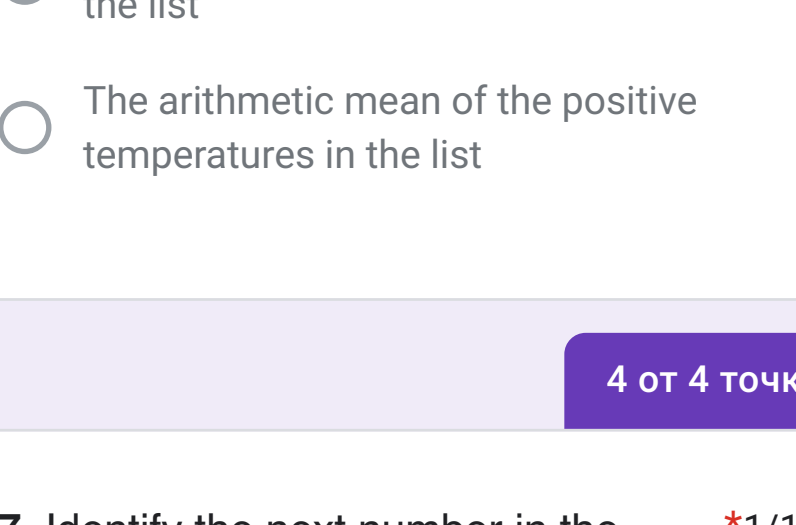
5. Choose the image that completes the series:



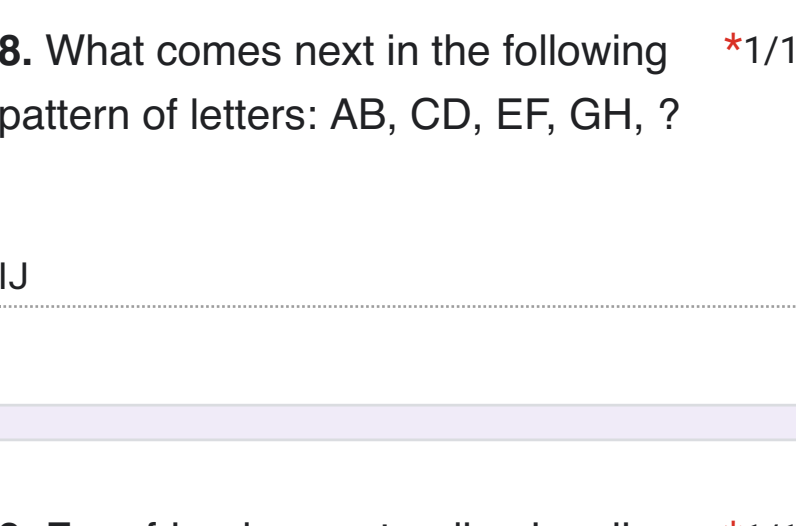
5. Choose the image that completes the series: \*



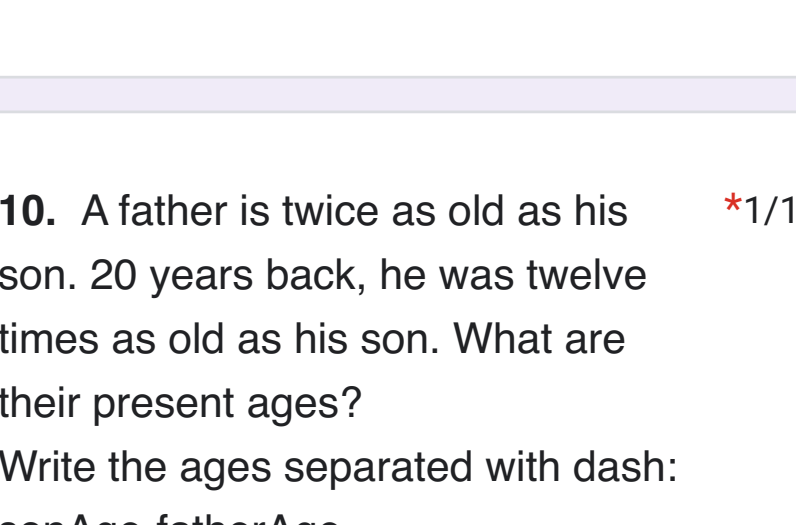
☐ Option 1



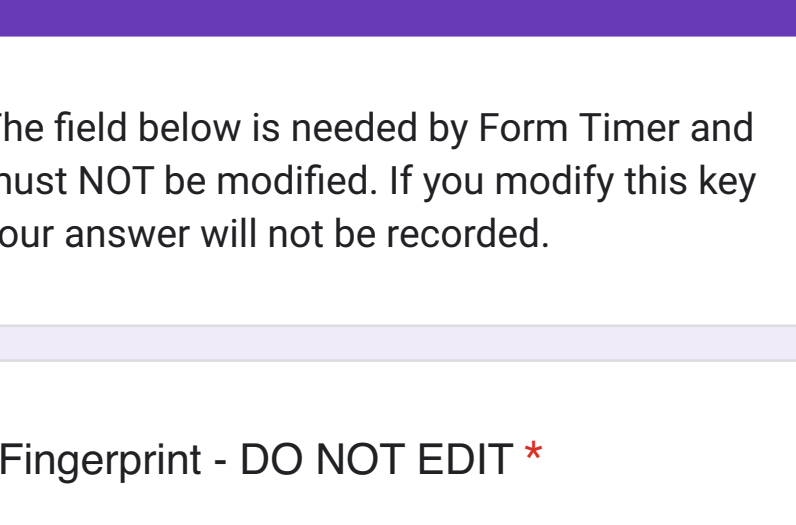
☐ Option 5



☒ Option 2



☐ Option 4



☐ Option 3



☐ Option 6

0 от 2 точки

6. Olivia is studying the climate in her city. Over the past year, she measured the air temperature at the same time every day. She has created a list of all the measurements taken. She has also prepared the following algorithm to analyze it:



6. What will Olivia get after executing this algorithm? \*

- ☐ The sum of the positive temperatures in the list
- ☒ The percentage of positive temperatures in the list
- ☐ The number of positive temperatures in the list
- ☐ The arithmetic mean of the positive temperatures in the list

4 от 4 точки

7. Identify the next number in the sequence: 2, 6, 12, 20, 30, ?

42

8. What comes next in the following pattern of letters: AB, CD, EF, GH, ?

IJ

9. Four friends are standing in a line. Alice is to the left of Bob and to the right of Charlie. David is to the right of Bob. Who is standing at the far left?

Charlie

10. A father is twice as old as his son. 20 years back, he was twelve times as old as his son. What are their present ages? Write the ages separated with dash: sonAge-fatherAge

22-44

Do not edit this field, click on SUBMIT 0 от 0 точки

The field below is needed by Form Timer and must NOT be modified. If you modify this key your answer will not be recorded.

Fingerprint - DO NOT EDIT \*

4ygTNya7

Това съдържание не е нито създадено, нито одобрено от Google. - Условия за ползване - Декларация за поверителност  
Този елемент изглежда ли подозрително? Отчет

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