



Компютърно  
тема чрез



е на коледна  
ограмиране

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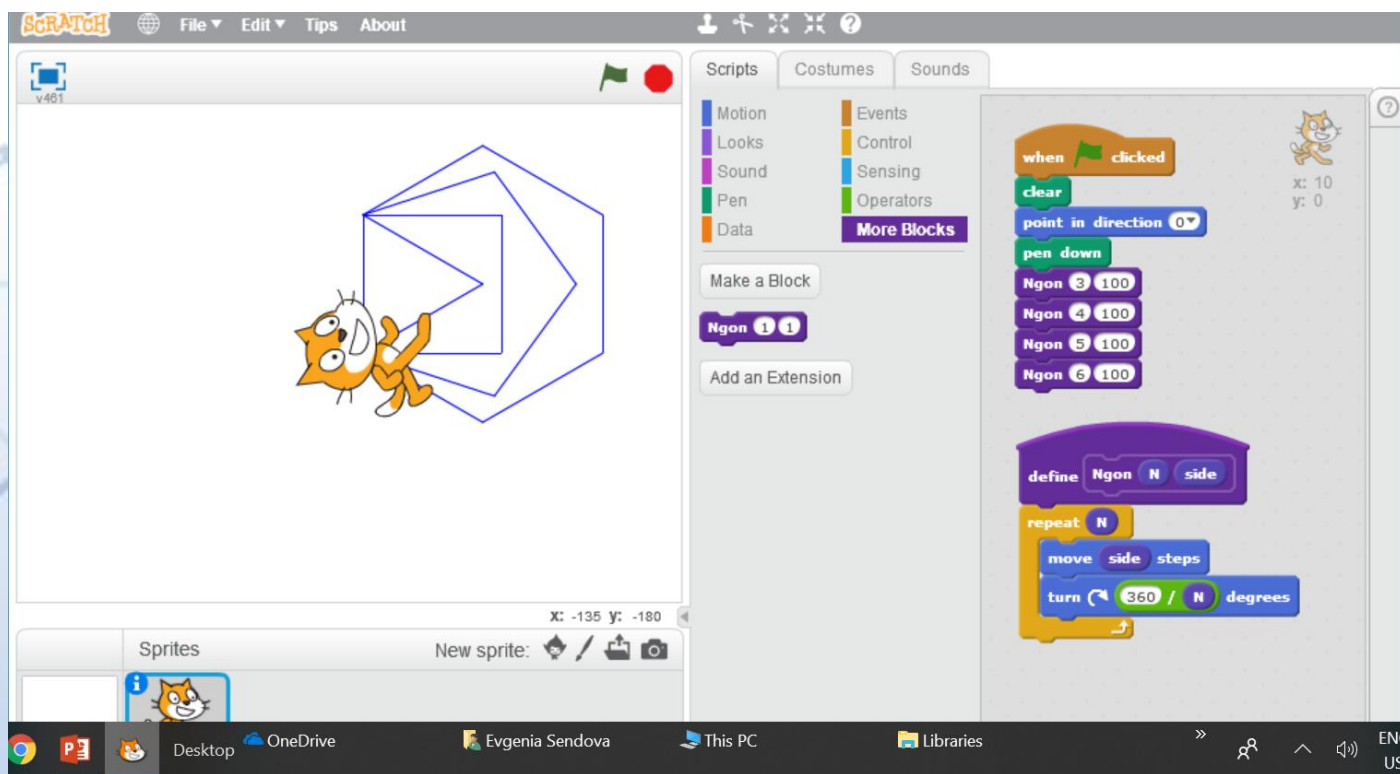
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# Да направим правилни N-ъгълници в средата Scratch



The screenshot shows the Scratch IDE with a script designed to draw a regular polygon. The script is as follows:

```
when green flag clicked  
clear  
point in direction 0  
pen down  
Ngon 3 100  
Ngon 4 100  
Ngon 5 100  
Ngon 6 100  
  
define Ngon N side  
repeat N  
  move side steps  
  turn 360 / N degrees
```

The 'Ngon' blocks are purple, and the 'repeat' block is yellow. The 'turn' block is set to 360 / N degrees. The 'move' block is set to 'side' steps. The 'point in direction' block is set to 0. The 'pen down' block is green. The 'clear' block is green. The 'when green flag clicked' block is orange.

The background shows a blue and white molecular structure. The Scratch interface includes a menu bar (File, Edit, Tips, About), a toolbar, a stage with a cat sprite, a sprites panel, and a scripts panel with various block categories (Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, More Blocks).



Desktop

OneDrive

Evgenia Sendova

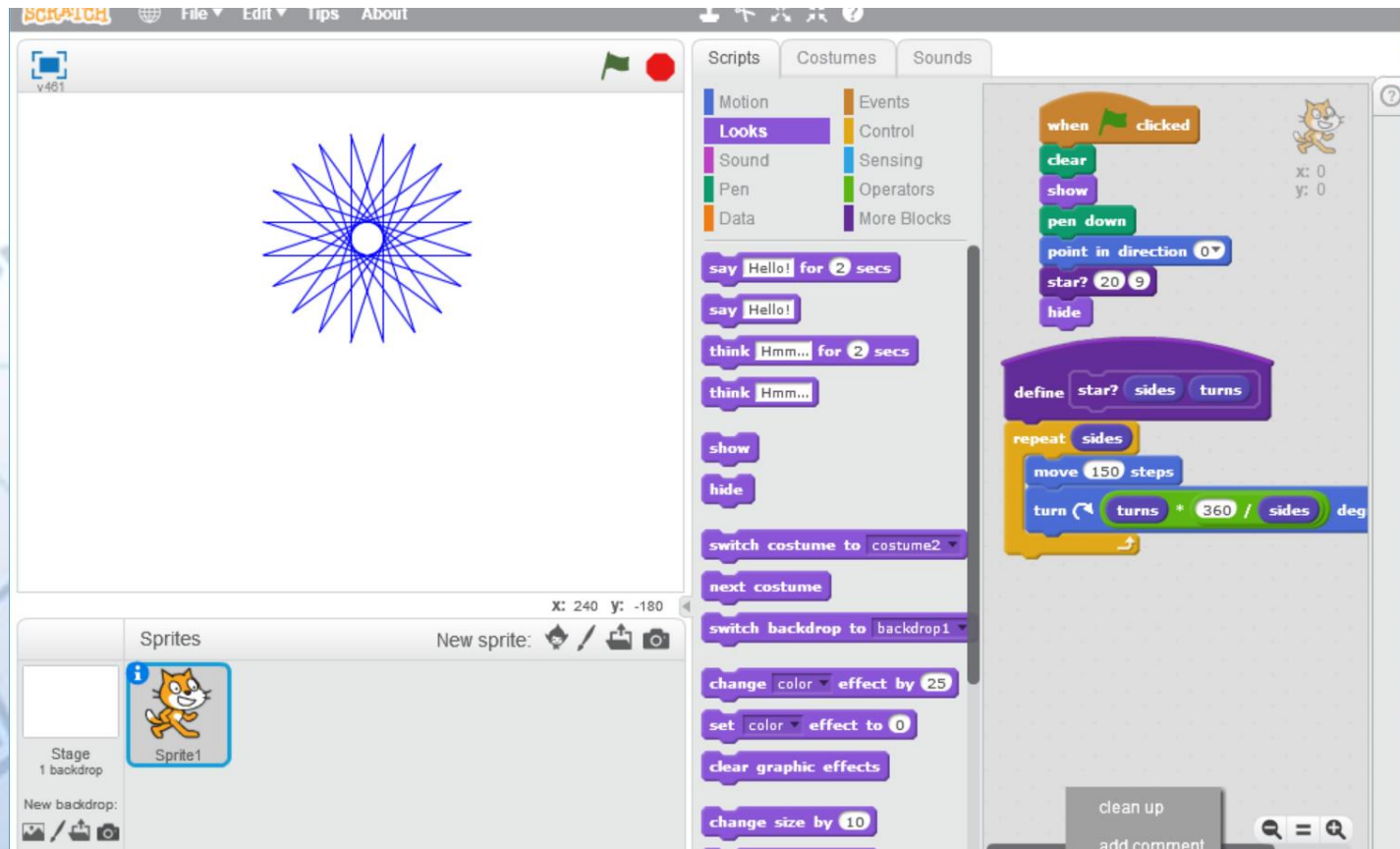
This PC

Libraries

»

ENC  
US

# А сега да направим N-лъчни звезди



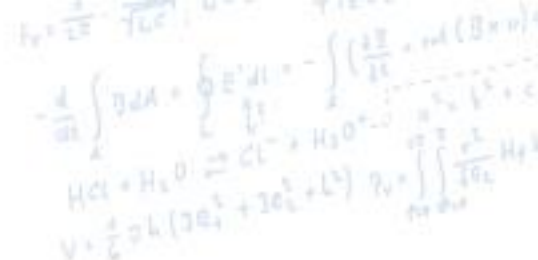
The screenshot displays the Scratch programming environment. The stage shows a blue star shape with 20 sides and 9 turns. The code blocks are as follows:

```
when green flag clicked
  clear
  show
  pen down
  point in direction 0
  star? 20 9
  hide

define star? sides turns
  repeat sides
    move 150 steps
    turn turns * 360 / sides deg

switch costume to costume2
next costume
switch backdrop to backdrop1
change color effect by 25
set color effect to 0
clear graphic effects
change size by 10
```





# Направете експерименти и попълнете таблицата!

Брой страни N	Обороти K	Звезда с N лъча ли е?
5	1	
5	2	ДА
5	3	
5	4	
5	5	
6	1	
6	2	
6	3	

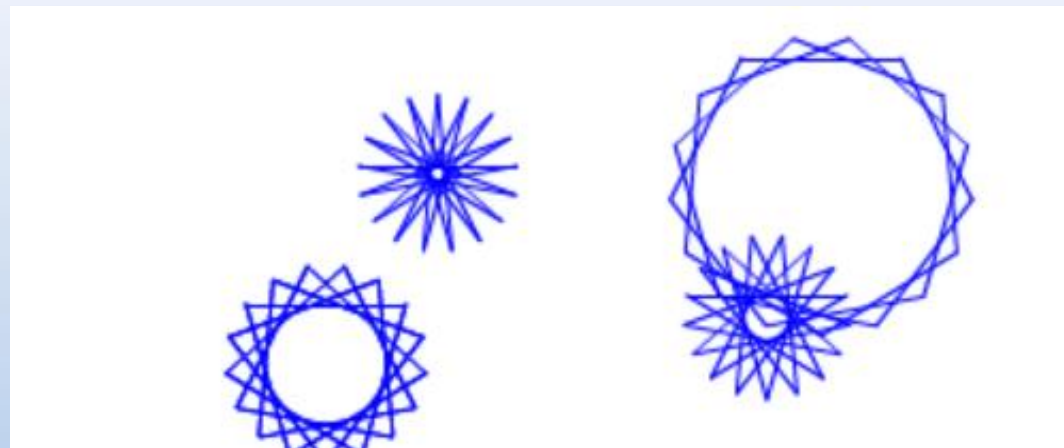


# Продължете таблицата и се опитайте да направите:

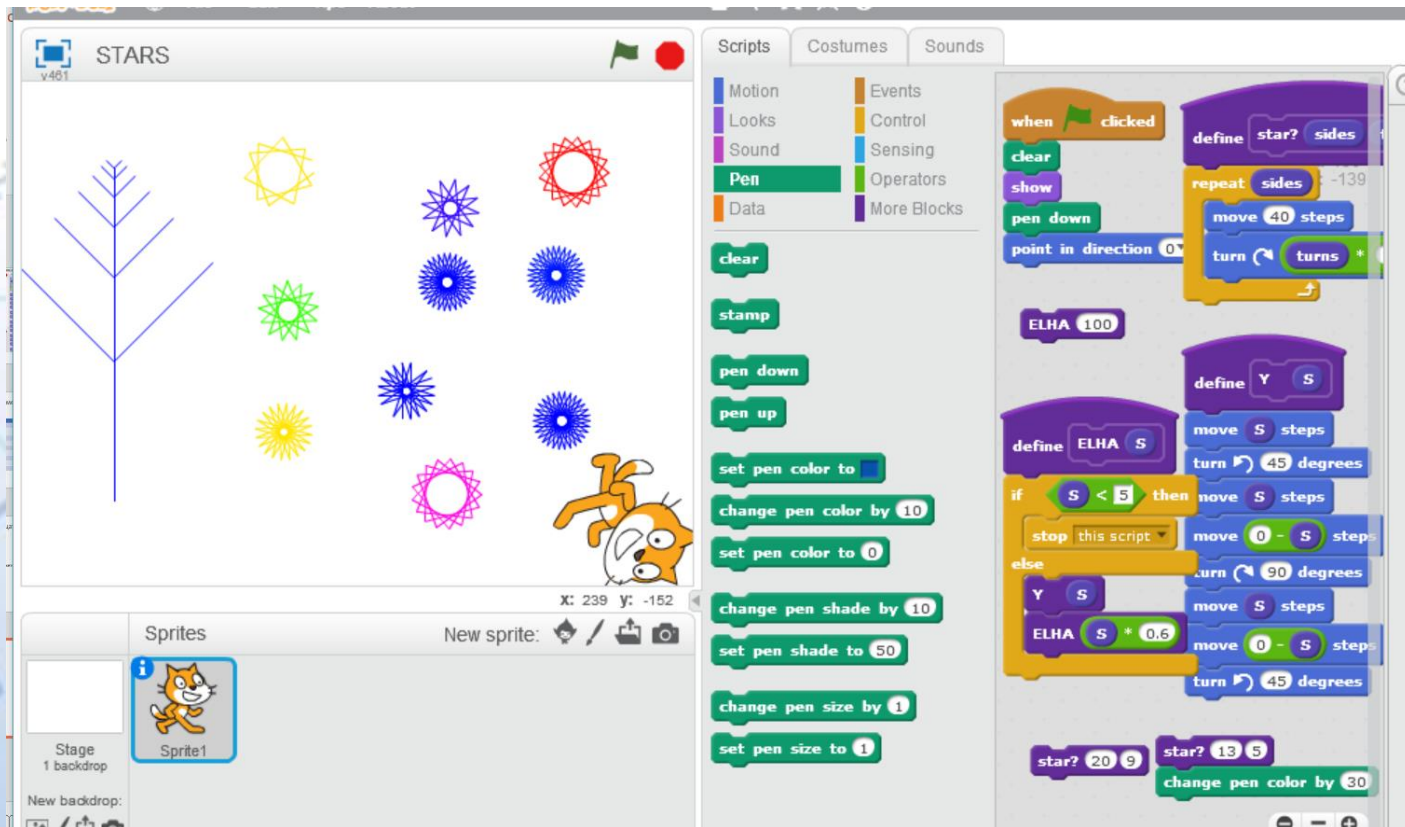
20 -лъчка с остри лъчи

15-лъчка с плитки лъчи

Колко различни 17-лъчки можете да  
получите?



# Да направим елха и да я украсим!



The screenshot shows the STARS programming environment. The stage displays a blue tree and several colorful star-like decorations. The Scripts panel on the right contains the following code:

```
when green flag clicked
  clear
  show
  pen down
  point in direction 0 degrees
  define star? sides
  repeat sides - 139
    move 40 steps
    turn 45 turns
  ELHA 100
  define Y S
  move S steps
  turn 45 degrees
  if S < 5 then
    stop this script
    move 0 - S steps
  else
    turn 90 degrees
  Y S
  ELHA S + 0.6
  move 0 - S steps
  turn 45 degrees
  star? 20 9
  star? 13 5
  change pen color by 30
```