# 2015-SE-01-EN Drawing stars

| 0 medium | I: easy | II: ---- | III: ---- | IV: ---- |
|----------|---------|----------|-----------|----------|
| ☐ ALG | ☐ INF | ☐ STRUC | ☐ PUZ | ☐ SOC | ☐ USE |

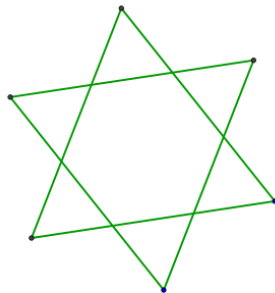Answer Type: Multiple choice   Mandatory for: none

## Body

Stella Beaver loves to draw stars. She has devised a system for labeling her stars according to their shape. For that, she uses two numbers:

- A number of dots of the star.
- A number which indicates if a line from a dot is drawn to the nearest dot (the number is 1), the second closest dot (the number is 2), etc.
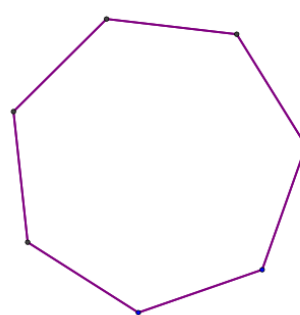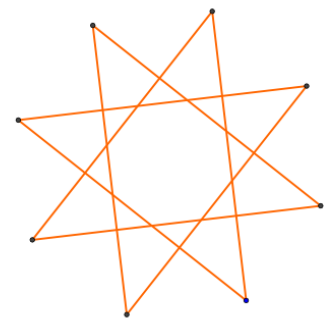
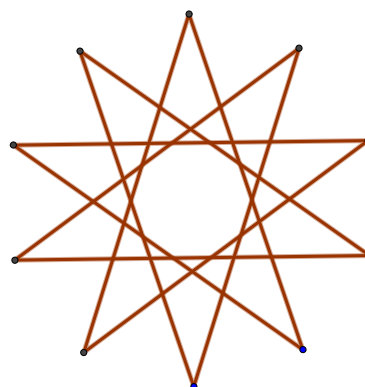Here are four examples of Stella's labeling system:
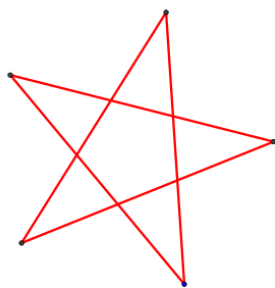


**5:2**          **6:2**          **7:1**          **8:3**

## Question

How would Stella label the following star?



## Answer

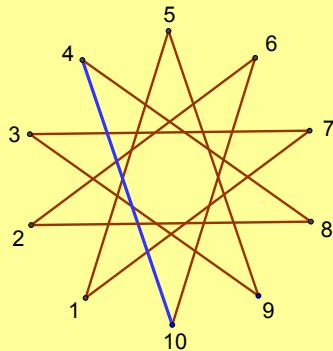*Drawing stars 2015-SE-01-EN, Last saved 2015-05-27 at 15:21:52 by*

- 9:3
- 9:4
- 10:4
- 10:5

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## Explanation

10:4 is correct. The star has 10 dots and it is possible to draw a line to the fourth nearest dot.



## It's informatics

Computers need simple representations of objects to be able to work with them. The fact that a complex and beautiful object such as a regular star polygon can be described by only two integers is an example of a simple representation.

## Keywords

Regular star polygon, Schäfli symbol

## Websites

http://en.wikipedia.org/wiki/Star_polygon

## Internal Use
## Wording

vertex, line, skip-factor

## Comments

Arnheidur Gudmundsdottir, 26-05-15, wording of explanation and body
Jiří Vaníček, 26-05-15, New vector images created

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# Graphics

# Files

All additional files for this task (graphics, scripts, etc.)
2015-SE-01-EN.odt (this file)
star10-4explanation.svg
star10-4.svg,
star5-2.svg, star6-2.svg, star7-1.svg, star8-3.svg
stars.png (4 stars constellation)

# Authorship

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