1. Cut the following shape into 5 identical pieces in such a way that every piece will have one gray square.

2. Cut each of the shapes on the picture into two identical parts, following the lines of the grid, so that each part will contain exactly one dot.

3. Cut each of the shapes ion the picture into two equal parts. (You are allowed to cut along the lines of the grid, and also along the diagonals).

4. Divide the shape shown on the picture into four equal parts, following the lines of the grid. Give at least two different solutions.

5. Cut the shape shown below into 4 equal parts (You are allowed to cut along the lines of the grid, and also along the diagonals).

6. A square cake with 4 sugar flowers should be divided into 4 equal pieces so that each piece has a flower. Show how this can be done.

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| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |
|  | $\ddots$ | $\bullet$ |  |  |  |
|  | $\ddots$ |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

7. Divide the $6 \times 6$ square shown below into 4 equal parts, in such a way that each of them contains three shaded squares. You can only cut along the lines of the square grid.


## Homework

1. Divide the $5 \times 5$ square with the central square removed, into 4 equal parts. Find at least two different solutions.
2. Draw a a broken line with 4 straight parts, which goes through all 9 points. (It should be possible to draw this line without lifting the pencil off the paper and without tracing any of the parts twice).

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3. A magic island has 4 kingdoms, and each of the kingdoms shares a part of its border with each of the other three. Draw a map of this island, as you imagine it.

