

Novetta - now a part of Accenture Federal Service - Delivering AI, cyber & cloud capabilities to the NatSec mission. Solve real-world puzzles with us

horizontal `y=...` lines) or left (for vertical `x=...` lines). In this example, the first fold instruction is `fold along y=7`, which designates the line formed by all of the positions where `y` is `7` (marked here with `-`):

```
...#...#...#
....#.....
.....
#.....
...#...#...#
.....
.....
-----
.....
.....
.#...#...#
....#.....
.....#...#
#.....
#.#.....
```

Because this is a horizontal line, fold the bottom half **up**. Some of the dots might end up overlapping after the fold is complete, but dots will never appear exactly on a fold line. The result of doing this fold looks like this:

```
###...#...#
#...#.....
.....#...#
#...#.....
.#...#...#
.....
.....
```

Now, only `17` dots are visible.

Notice, for example, the two dots in the bottom left corner before the transparent paper is folded; after the fold is complete, those dots appear in the top left corner (at `[0,0]` and `[0,1]`). Because the paper is transparent, the dot just below them in the result (at `[0,3]`) remains visible, as it can be seen through the transparent paper.

Also notice that some dots can end up **overlapping**; in this case, the dots merge together and become a single dot.

The second fold instruction is `fold along x=5`, which indicates this line:

```
###.# | #...#
#...# | .....
..... | #...#
#...# | .....
.#...# | #.###
..... | .....
..... | .....
```

Because this is a vertical line, fold **left**:

```
####
#...#
#...#
#...#
####
.....
.....
```

The instructions made a square!

The transparent paper is pretty big, so for now, focus on just completing the first fold. After the first fold in the example above, `17` dots are visible - dots that end up overlapping after the fold is completed count as a single dot.

How many dots are visible after completing just the first fold instruction on your transparent paper?

Your puzzle answer was `802`.

--- Part Two ---

Finish folding the transparent paper according to the instructions. The manual says the code is always `eight` capital letters.

What code do you use to activate the infrared thermal imaging camera system?

Your puzzle answer was `RKHFZGUB`.

Both parts of this puzzle are complete! They provide two gold stars: **

At this point, you should [return to your Advent calendar](#) and try another puzzle.

If you still want to see it, you can [get your puzzle input](#).

You can also [\[Share\]](#) this puzzle.