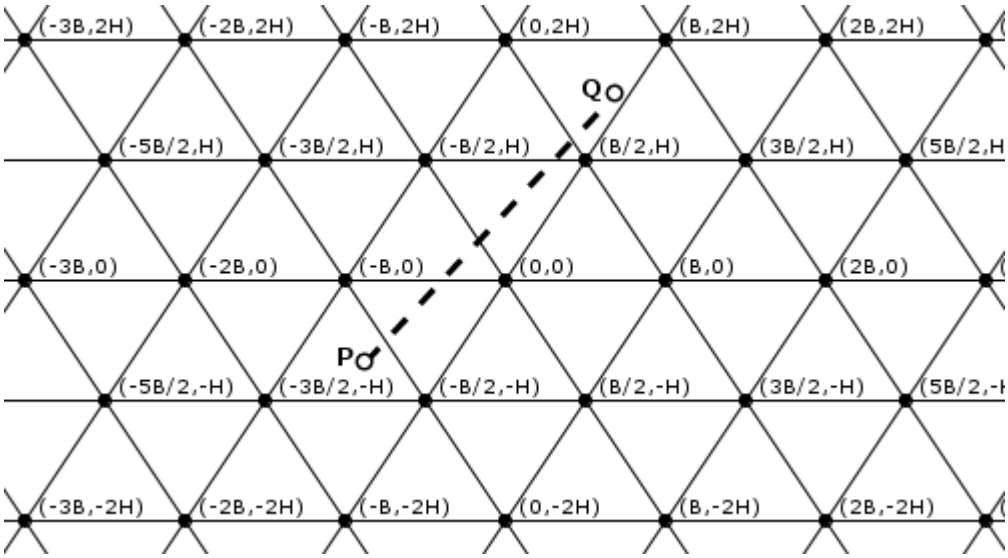
There is an infinite grid in the Cartesian plane composed of isosceles triangles, with the following design:



A *single triangle* in this grid is a triangle with vertices on intersections of grid lines that has not other triangles inside it.

Given two points P and Q in the Cartesian plane you must determine how many single triangles are intersected by the segment $\overline{PQ}$. A segment intersects a polygon if and only if there exists one point of the segment that lies inside the polygon (excluding its boundary).

Note that the segment $\overline{PQ}$ in the example intersects exactly six single triangles.

Input

The problem input consists of several cases, each one defined in a line that contains six integer values B, H, x_1, y_1, x_2 and y_2 ($1 \leq B \leq 200$, $2 \leq H \leq 200$, $-1000 \leq x_1, y_1, x_2, y_2 \leq 1000$), where:

- B is the length of the base of all isosceles single triangles of the grid.
- H is the height of all isosceles single triangles of the grid.
- (x_1, y_1) is the point P, that defines the first extreme of the segment.
- (x_2, y_2) is the point Q, that defines the second extreme of the segment.

You can suppose that neither P nor Q lie in the boundary of any single triangle, and that $P \neq Q$. The end of the input is specified by a line with the string '`0 0 0 0 0 0`'.

Output

For each case in the input, print one line with the number of single triangles on the grid that are intersected by the segment $\overline{PQ}$.

Sample Input

```
100 120 -20 -100 160 160
10 8 5 5 5 4
10 8 5 5 10 5
10 8 5 5 10 10
0 0 0 0 0 0
```

Sample Output

```
6
1
2
3
```