## 8. Ricochet

PROBLEM: In the game of Cartesian Pool, a ball is placed at a spot on a pool table that has no pockets. The ball is then put in motion. When it hits a side, it bounces off at the same angle that it entered that side. It continues bouncing off sides in this way. See Example #1. If the ball hits a corner, it bounces off at the same angle that it entered as shown in Example #2. The angles marked 1 and 2 in the figures below are the equal angles.

EXAMPLE #1: In a 20x15 pool table, a ball is placed at (11,7). It is rolled so that it hits the top side 6 units to the right of where it started. The ball bounces off the top side and hits the right side 4 units down from the top. And so on.
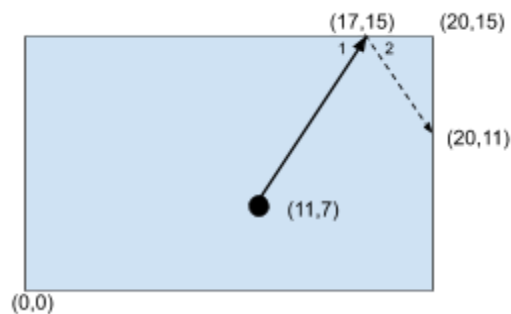
EXAMPLE #2: Here is an example of a ball hitting a corner.
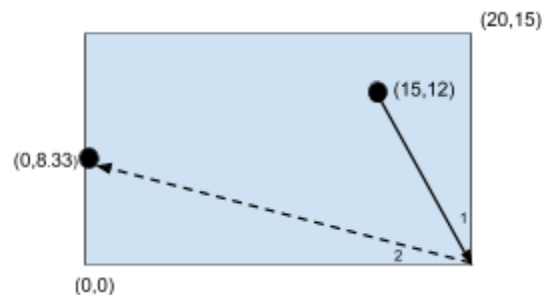
INPUT: 10 lines of data. Each line consists of the dimensions of a pool table (width followed by height), the initial location of the ball (an ordered pair), the location where the ball first hits a side or corner (and ordered pair), and an integer K. All numbers are integers, and are separated by one or more spaces. The first and second Sample Inputs below correspond to the examples above.

OUTPUT: For each line of data, print where on a side the ball hits on the Kth ricochet, rounded to the nearest integer (round up at .5). For the left and right sides, print the y coordinate. For the top and bottom sides, print the x coordinate. If the ball ends at the corner, print the larger of the coordinates.

SAMPLE INPUT:
(*3 lines of data; Test Data will have 10 lines*)
20 15 11 7 17 15 2
20 15 15 12 20 0 2
10 6 5 3 8 6 4

SAMPLE OUTPUT:
1. 11
2. 8
3. 6

TEST DATA

TEST INPUT:

```
20 15 15 12 20 0 3
15 12 7 6 5 0 14
14 22 9 15 14 12 6
12 15 8 6 0 0 20
10 15 5 9 10 15 8
10 12 2 2 10 6 9
15 12 7 6 15 4 10
15 10 0 0 15 10 11
20 20 10 10 20 20 9
5 8 4 3 4 8 12
```

TEST OUTPUT:

1. 16

2. 11

3. 22

4. 8

5. 3

6. 12

7. 2

8. 2

9. 20

10. 4