

Homogeneous area

[Wersja polska](#)

[English version](#)

Given two rectangles You are to calculate the area they occupy.

Input

There is unknown number of tests. Each test consist of eight integers

$x_{A1} y_{A1} x_{A2} y_{A2} x_{B1} y_{B1} x_{B2} y_{B2}$ ($|all| \leq 10^6$).

Input ends when all numbers equal 0.

Output

For each test You should print the area these two rectangles occupy.

Example

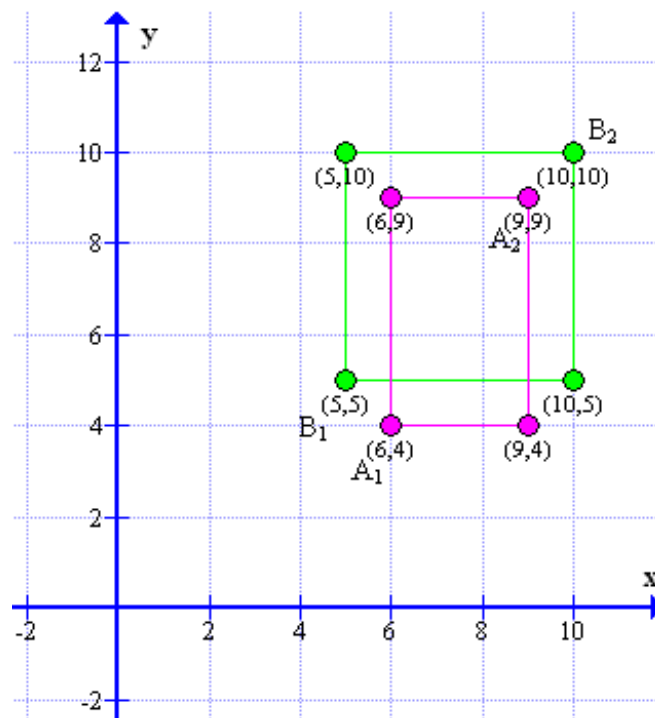
Input:

```
6 4 9 9 5 5 10 10
10 5 5 10 9 9 6 4
0 0 0 0 0 0 0 0
```

Output:

```
28
28
```

Illustration to the 1st test



Special thanks to Rafał Spręga for the concept of this task.