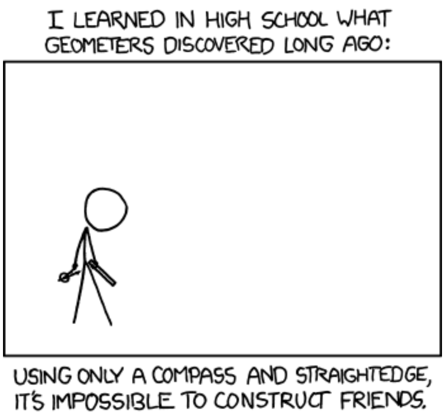
Quad areas



Description

Since you don't have any friends, you get to spend Saturday morning solving a geometry problem.
A convex quadrilateral can be divided into four non-overlapping triangles by connecting opposite vertices, as shown.
You must find the area of the largest of these four triangles.

You may find the "shoelace formula" helpful. It describes the area of a degree-n polygon with vertices $x_1 y_1 x_2 y_2 \ldots x_n y_n$: $A = \frac{1}{2} \left| \left(\sum_{i=1}^{n-1} x_i y_{i+1} \right) + x_n y_1 - \left(\sum_{i=1}^{n-1} x_{i+1} y_i \right) - x_1 y_n \right|$ which, when n=3, is $A = \frac{1}{2} \left| x_1 y_2 + x_2 y_3 + x_3 y_1 - x_2 y_1 - x_3 y_2 - x_1 y_3 \right|$

Input

The input is the four vertices, in order. Each vertex is on a line, and each line has the x- and y-coordinates separated by a space. All coordinates are integers from -500 to 500 inclusive.
The quadrilateral is guaranteed to be convex; i.e. the angle at each vertex is less than 180 degrees.

Output

Output a single number: the area of the largest triangle. This answer must be accurate to within 0.001.

Examples

Input	Input	Input
0 0 0 1 1 1 1 0	0 5 10 400 100 500 50 -5	-2 0 0 1 2 0 0 -1
Output	**Output**	**Output**
0.25	11588.288	1