

## 438 The Circumference of the Circle

To calculate the circumference of a circle seems to be an easy task - provided you know its diameter. But what if you don't?

You are given the cartesian coordinates of three non-collinear points in the plane.

Your job is to calculate the circumference of the unique circle that intersects all three points.

### Input Specification

The input file will contain one or more test cases. Each test case consists of one line containing six real numbers  $x_1, y_1, x_2, y_2, x_3, y_3$ , representing the coordinates of the three points. The diameter of the circle determined by the three points will never exceed a million. Input is terminated by end of file.

### Output Specification

For each test case, print one line containing one real number telling the circumference of the circle determined by the three points. The circumference is to be printed *accurately rounded* to two decimals. The value of  $\pi$  is approximately 3.141592653589793.

### Sample Input

```
0.0 -0.5 0.5 0.0 0.0 0.5
0.0 0.0 0.0 1.0 1.0 1.0
5.0 5.0 5.0 7.0 4.0 6.0
0.0 0.0 -1.0 7.0 7.0 7.0
50.0 50.0 50.0 70.0 40.0 60.0
0.0 0.0 10.0 0.0 20.0 1.0
0.0 -500000.0 500000.0 0.0 0.0 500000.0
```

### Sample Output

```
3.14
4.44
6.28
31.42
62.83
632.24
3141592.65
```