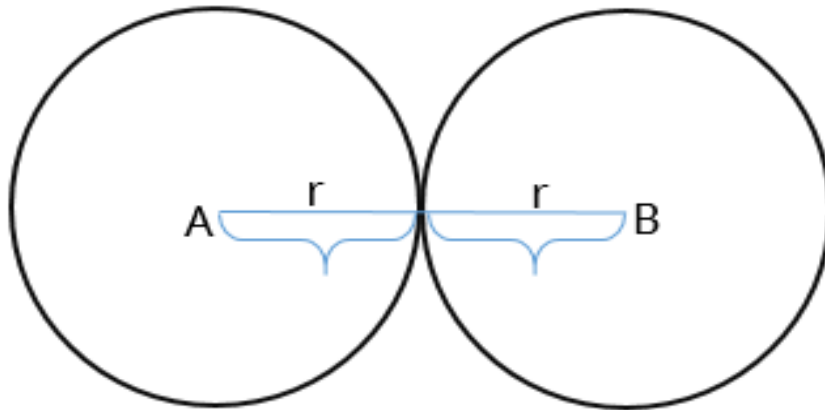


Universal Radius

Given two point **A** and **B** that center of two circle. The two circle are equal and tangent externally. you have to find the radius that are equal of both circle radius. See the picture below :



Input

Input starts with an integer **T** (≤ 250), denoting the number of test cases. Each case contain four integers **x_1, y_1, x_2, y_2** ($-10^6 \leq x_1, y_1, x_2, y_2 \leq 10^6$) where **x_1** and **y_1** are coordinates of the first point and **x_2** and **y_2** are coordinates of the second point. It's guaranteed that the given points are distinct.

Output

For each case, print the answer to the problem which describe above. Answer round with 6 decimal places.

Example

Input:

```
2
0 1 5 10
-2 -1 -4 -9
```

Output:

```
5.147815
4.123106
```

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