Two bullets are moving straight with given velocity for a certain time(**T**). Find the minimum distance between them.

**Function Description**

The first line of input provides **T**.

The second line of input provides the starting point of first bullet, **A**x, **A**y, **A**z .

The third line of input provides the velocity of first bullet, **A**vx, **A**vy, **A**vz .

The fourth line of input provides the starting point of second bullet, **B**x, **B**y, **B**z .

The five line of input provides the velocity of first bullet, **B**vx, **B**vy, **B**vz .

The output should display the minimum distance between the two bullets( if output has more than 4 decimal digits then it should be rounded-off to 6 decimal digts.

**Input Format**

100

15 50 5

25 1 0

161 102 9

-10 -10 -1

**Output Format**

5.837187

**Sample Input**

20

10 10 10

-1 -1 -1

-10 -10 -10

1 1 1

**Sample Output**

0.0