Problem E - Easy Swim

After finishing the cake they had, Daniel and David decide to go for a swim in the ocean at the beach nearby.

Daniel was in the water when he suddenly got cramps from the cake and couldn't move his legs! David was on the shore nearby and rushed to save Daniel. David knows how fast he can run and how fast he can swim. Help David save Daniel!

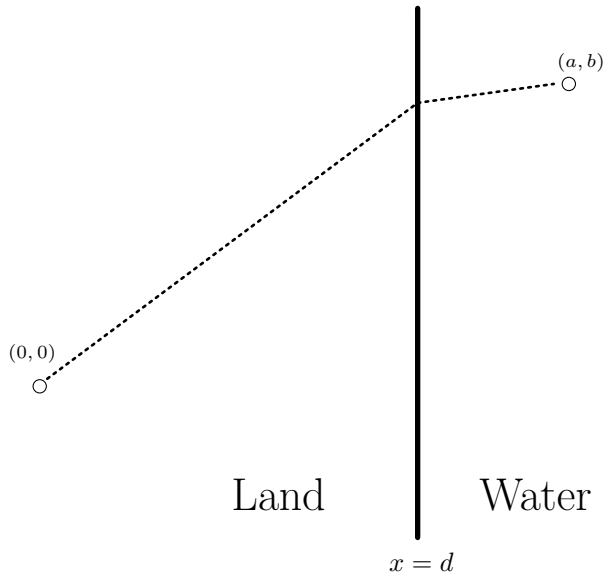

Figure 1: A diagram of the situation - David needs to run to the water, then swim to Daniel.

Input

The first line contains a single integer T denoting the number of test cases.

The situation can be modeled on the 2D plane.

Each test case consists of one line with 5 integers a, b, d, v_ℓ, v_s denoting that Daniel is located at (a, b), the waterline is at $x = d$, and that David runs at speed v_ℓ on land and swims at speed v_s in the water.

It is guaranteed that $0 \leq d \leq a$. David starts at $(0, 0)$.

All values are guaranteed to be between 0 and 2×10^3.

Output

For each test case, output the minimum time it takes for David to reach Daniel.

Your answer will be accepted if it lies within 10^{-4} of the correct answer in either absolute or relative error.

Sample Input

```
4
0 0 0 1 2
10 0 0 1 2
10 0 10 1 2
10 10 5 1 2
```

Sample Output

```
0.000000000
5.000000000
10.000000000
10.094108191
```