

Rainfall is measured in millimeters. The rain is collected in a vertical transparent tube with millimeter markings, and once the rain has stopped falling, one can check the height of the water in the tube.

In our problem, the tube unfortunately has a leak at height L millimeters (mm). If the water level is above the leak then water drains from the tube at a rate of K millimeters per hour (mm/h).

We want to figure out how much rain fell during a particular rainfall. We assume that the tube is high enough that it does not overflow. We also assume that rain falls at an (unknown) uniform rate during a rainfall, and that water does not evaporate from the tube. The height of the leak itself is also negligible.

Input

The first line of the input file contains an integer N ($N < 40$) which denotes the total number of test cases. The description of each test case is given below:

A line with five positive numbers: $L K T_1 T_2 H$ where

- L is where the leak is (mm)
- K is the rate at which water leaks (mm/h)
- T_1 is the duration of the rainfall (h)
- T_2 is the time between the end of the rainfall and the observation of the water level (h)
- H is the water level in the tube when we observe it (mm)

Each number is at least 0.01 and at most 1000.00, and each is given with two decimals.

Output

For each test case print one line with two floating point numbers $F_1 F_2$ where F_1 is the smallest rainfall in millimeters that would result in the given observation, and F_2 is the largest rainfall in millimeters that would result in the given observation. Values with either absolute or relative error smaller than 10^{-6} are acceptable.

Sample Input

```
2
80.00 0.50 2.00 1.50 80.00
150.00 1.00 100.00 150.00 100.00
```

Sample Output

```
80.000000 80.759403
100.000000 100.000000
```