Problem 1 - The Hunting Games

A group of friends has decided to participate in a game. The first stage of the game is to gather some supplies. They have a list, and your job is to help them follow it and make the needed calculations.

Write a program that calculates the needed provisions for a quest in the woods.

First, you will receive **the days of the adventure**, **the count of the players,** and the **group's energy**. Afterward, you will receive **provisions for a day for one person**:

- **Water**
- **Food**

The group calculates how many supplies they'd need for the adventure and takes that much water and food.

Every day they chop wood and **lose a certain amount of energy**. For each of the days, you are going to receive the amount of **energy lost** from chopping wood. The program should **end** if the energy reaches **0** or **less**.

Every second day they **drink water**, which **boosts** their **energy** with **5% of their current energy** and at the same **time drops their water supplies** by **30% of their current water.**

Every third day they **eat**, which **reduces their food supplies (all food they have) by the following amount:**

`{currentFood} / {countOfPeople}` and at the same time **raises** their group's **energy** by **10%**.

The chopping of wood, the drinking of water, and the eating happen in the order above.

If they have **enough energy** to finish the quest, print the following message:

```
"You are ready for the quest. You will be left with - {energyLevel} energy!"
```

If they **run out of energy**, print the following message and the **food** and **water** they were left with **before** they ran out of energy:

```
"You will run out of energy. You will be left with {food} food and {water} water."
```

Input / Constraints

- **On the 1st line**, you will receive a number **N** - the days of the adventure – **an integer** in the range **[1…100].**
- **On the 2nd line** – the number of players – **an integer** in the range **[1 – 1000].**
- **On the 3rd line** - the group's energy – **a real number** in the range **[1 - 50000].**
- **On the 4th line** – water per day for one person – **a real number [0.00 – 1000.00].**
- **On the 5th line** – food per day for one person – **a real number [0.00 – 1000.00].**
- On the next **N** lines – one for each of the days – the amount of **energy loss**– **a real number** in the range **[0.00 - 1000.00].**
- You will **always** have **enough food** and **water**.

Output

- The final numbers should be **formatted** to the **second digit** after the decimal separator.

Examples

Input	Output
10 7 5035.5 11.3 7.2 942.3 500.57 520.68 540.87 505.99 630.3 784.20 321.21 456.8 330	You are ready for the quest. You will be left with - 658.72 energy!

Comments

The **days** are **10,** and the **players** are **7**. The **energy** of the whole **group** is **5035.5**. We receive the **water** and **food,** and we can **calculate** the needed amount of both for the whole quest:

Total water: 10 * 7 * 11.3 = 791

Total food: 10 * 7 * 7.2 = 504

The energy lost on the first day: **5035.5 – 942.3 = 4093.2**

The first time we reach the **second day**, the energy will become **3772.26,** and the water will become **553.7**.

The first time we reach the **third day**, the energy will become - **3576.74** and the food **432**.

Make all the calculations, and in the end, you must have **658.72** energy left and **132.94** water, and **317.39** food left.

Input	Output

12 6 4430 9.8 5.5 620.3 840.2 960.1 220 340 674 365 345.5 212 412.12 258 496	You will run out of energy. You will be left with 229.17 food and 118.59 water.

JS Examples

The input will be provided as an array of strings.

Input	Output
(["10", "7", "5035.5", "11.3", "7.2", "942.3", "500.57", "520.68", "540.87",	You are ready for the quest. You will be left with - 658.72 energy!

"505.99", "630.3", "784.20", "321.21", "456.8", "330"])	

Comments
The **days** are **10,** and the **players** are **7**. The **energy** of the whole **group** is **5035.5**. We receive the **water** and **food,** and we can **calculate** the needed amount of both for the whole quest: **Total water: 10 * 7 * 11.3 = 791** **Total food: 10 * 7 * 7.2 = 504** The energy lost on the first day: **5035.5 – 942.3 = 4093.2** The first time we reach the **second day**, the energy will become **3772.26,** and the water will become **553.7**. The first time we reach the **third day**, the energy will become - **3576.74** and the food **432**. Make all of the calculations, and in the end, you must have **658.72** energy left and **132.94** water, and **317.39** food left.

Input	Output
(["12", "6", "4430", "9.8", "5.5", "620.3", "840.2", "960.1", "220", "340", "674", "365", "345.5", "212", "412.12", "258", "496"])	You will run out of energy. You will be left with 229.17 food and 118.59 water.