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!"

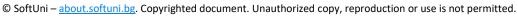
If they run out of energy, print the following message and the food and water they were left with before they ran out of energy:

"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 2^{nd} 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	You are ready for the quest. You will be left with - 658.72 energy!
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	

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	You will	run	out	of	energy.	You	will	be	left	with	229.17	food	and	118.59	9
6	water.														
4430															
9.8															
5.5															
620.3															
840.2															
960.1															
220															
340															
674															
365															
345.5															
212															
412.12															
258															
496															

JS Examples

The input will be provided as an array of strings.

Input	Output
(["10",	You are ready for the quest. You will be left with - 658.72 energy!
"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"])

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









