**Time Management**

Time limit:

Memory limit: 256MB

Mr A’s company is doing well. This month, the company needs to complete project, that is divided into parts. The company has groups in this area. Mr A wants to divide parts to these groups. And he also wants each part to be as clear as it can, so there will no parts being done by 2 different groups.

Mr A still does not know how to divide the most efficiently. One of his vice, Mr T, suggests to analyze the connections between the amount of parts and time completion for each group. Using quadratic regression for data from previous projects, they know: averagely, the -th group will need hours to complete all given parts.

Since the company has to pay for each working hour, Mr A wants to minimize the sum of groups’ time completion. Let’s help Mr A divide those works and calculate the minimal total time completion.

**Input**

The first line of the input contains 2 positive integers – the number of groups and the number of parts.

The -th line of the next lines contains 2 decimal numbers , all of them have at most 2 decimal digits.

**Output**

Print one number, the minimal total time completion. The output will be accepted if it has absolute error at most .

**Sample 1**

|  |  |
| --- | --- |
| 3 6  1 1  1 1  1 1 | 18 |

**Sample 2:**

|  |  |
| --- | --- |
| 3 6  1 2.15  0 4  0.3 2.5 | 21.35 |

**Explanation:**

In the first sample, it is optimal to give each group 2 parts: so the total time completion is

In the second sample, it is optimal to the first, second and third group do 1, 3 and 2 parts, respectively. The total time is