# Problem 1 - Cooking Masterclass



*George is starting his own course, a Cooking Masterclass. So, he asked you to buy the needed items.*

The number of **items** depends on **how many students will sign up for the course**. The educational set for **one student** consists of 1 package of **flour**, **10 eggs**,and an **apron**.

You will be given **George's budget**, the **number of students signed, and each item's price**. You should help George **calculate** if the **budget** is **enough to buy all the items** or how much more money he needs.

You should know that the **aprons** get dirty often, so George should **buy 20% more**, **rounded up** to the next integer. Also, every **fifth package of flour is free**.

### Input / Constraints

The input data will consist of:

* **budget** - a **floating-point number** in the **range [0.00…1000.00]**
* **students** - an **integer** in the **range [0…100]**
* **price** for a **package of flour** - a **floating-point number** in the **range [0.00…100.00]**
* **price** for a **single egg** - a **floating-point number** in the **range [0.00…100.00]**
* **price** for a **single** **apron** - a **floating-point number** in the **range [0.00…100.00]**

The **input data will always be valid**. **There is no need to check it explicitly**.

### Output

The output should be printed on the console.

* If the calculated price of the items **is less or equal to the budget**:
  + "Items purchased for {the cost of the items}$."
* If the calculated price is more than the budget:
  + "{neededMoney}$ more needed."
* **All prices** must be **formatted to two digits after the decimal point.**

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 50  2  1.0  0.10  10.0 | Items purchased for 34.00$. | Needed items for 2 students :  apronPrice \* (students + 20%) + eggPrice \* 10 \* (students) + flourPrice \* (students - freePackages)  10 \* (3) + 0.10 \* 10 \* (2) + 1 \* (2) = 34.00  34.00 <= 50 - the budget is enough. |
| **Input** | **Output** | **Comments** |
| 100  25  4.0  1.0  6.0 | 410.00$ more needed. | Needed items for 25 students:  6 \* 30 + 10 \* 25 + 4 \* 20 = 510.00  510 > 100 - need 410$ more. |
| **Input** | **Output** |  |
| 946  20  12.05  0.42  27.89 | 0.16$ more needed. |  |

import math  
  
budget = float(input())  
students = int(input())  
price\_flour = float(input())  
price\_one\_egg = float(input()) \* **10**price\_apron = float(input())  
  
po\_malko = **0**for n in range(**1,** students + **1**):  
 if n % **5** == **0**:  
 po\_malko += **1**total\_price\_flour = price\_flour \* (students - po\_malko)  
total\_price\_egg = price\_one\_egg \* students  
total\_price\_apron = price\_apron \* (math.ceil(students\***1.2**))  
  
razhod = (total\_price\_flour + total\_price\_egg + total\_price\_apron)  
  
if razhod <= budget:  
 print(f"Items purchased for {razhod:.2f}$.")  
else:  
 print(f"{abs(budget - razhod):.2f}$ more needed.")