Moo

After mastering every algorithm in existence, you have decided to look for new things to do. You have heard about Mr. Pepe, who hasn't got bored even after mastering every algorithm. He now runs a large poultry farm, which has n chickens. The weight of i-th chicken is $w[i]$.

To make a friendship with Mr. Pepe, you want to distribute the biscuits among the chickens. However, you are an artist (as is every programmer), so you want to distribute the biscuits in a fair manner. The number of biscuits received by a chicken should be proportional to its weight. Formally, Let $f[i]$ be the number of biscuits received by the i-th chicken. Then the following condition must be satisfied:

$$\frac{f[i]}{f[j]} = \frac{w[i]}{w[j]}, \text{ for every } 1 \leq i, j \leq n$$

You have m biscuits. What is the maximum number of biscuits you can distribute satisfying the above condition?

Input

Read the input from the standard input in the following format:

- line 1: $n \;\; m$
- line 2: $w[1] \;\; w[2] \;\; \ldots \;\; w[n]$

Output

Write the output to the standard output in the following format:

- line 1: The maximum number of biscuits you can distribute.

Constraints

- $1 \leq n \leq 200\,000$
- $1 \leq m \leq 10^{15}$
- $1 \leq w[i] \leq 10^9$ (for all $1 \leq i \leq n$)

Subtasks

1. (2 points) $n = 1$
2. (4 points) $m = 1$

3. (19 points) $n = 2$
4. (10 points) $n \leq 100$, $w[i] \leq 100$, $m \leq 10^5$
5. (15 points) $w[i] = w[j]$ (for all $1 \leq i, j \leq n$)
6. (20 points) There is at least one i such that $w[i] = 1$.
7. (30 points) No further constraints.

Examples

Example 1

```
3 12
1 1 3
```

The correct output is:

```
10
```

The number of biscuits distributed should be 2, 2, 6 respectively.

Example 2

```
5 10
1 5 2 3 1
```

The correct output is:

```
0
```

Here, you cannot distribute any number of biscuits in a fair manner. Thus the answer is 0.

Example 3

```
1 5
7
```

The correct output is:

```
5
```

Here you have 5 biscuits and 1 chicken. You should give all your biscuits to the single chicken.