2594. Minimum Time to Repair Cars

Description

You are given an integer array `ranks` representing the **ranks** of some mechanics. $ranks_i$ is the rank of the ith mechanic . A mechanic with a rank `r` can repair n cars in `r * n`^{2} minutes.

You are also given an integer `cars` representing the total number of cars waiting in the garage to be repaired.

Return *the **minimum** time taken to repair all the cars.*

Note: All the mechanics can repair the cars simultaneously.

Example 1:

```
Input:  ranks = [4,2,3,1], cars = 10
Output:  16
Explanation:
- The first mechanic will repair two cars. The time required is 4 * 2 * 2 = 16 minutes.
- The second mechanic will repair two cars. The time required is 2 * 2 * 2 = 8 minutes.
- The third mechanic will repair two cars. The time required is 3 * 2 * 2 = 12 minutes.
- The fourth mechanic will repair four cars. The time required is 1 * 4 * 4 = 16 minutes.
It can be proved that the cars cannot be repaired in less than 16 minutes.
```

Example 2:

```
Input:  ranks = [5,1,8], cars = 6
Output:  16
Explanation:
- The first mechanic will repair one car. The time required is 5 * 1 * 1 = 5 minutes.
- The second mechanic will repair four cars. The time required is 1 * 4 * 4 = 16 minutes.
- The third mechanic will repair one car. The time required is 8 * 1 * 1 = 8 minutes.
It can be proved that the cars cannot be repaired in less than 16 minutes.
```

Constraints:

- `1 <= ranks.length <= 10`^{5}
- `1 <= ranks[i] <= 100`
- `1 <= cars <= 10`^{6}