Circles Of Doom

We have N rollers (circular in shape) lying along side each other. They all are touching each other. So if any one of them moves, all other rollers also rotate. All the rollers are of different radius. You have to find for any given sequence of rollers, number of times each roller will rotate if we rotate the first roller by a complete circle. Number of times basically means the fraction of the circle the roller has completed (while the 1st roller completed its circle)

Input
First line contains an integer, N, the number of rollers.
Next line contains N space separated integers where the ith integer corresponds to the radius of the ith roller.

Output
N space separated decimals with exactly 4 places of precision

Example
input :
3
8 4 2

output :
1.0000 2.0000 4.0000

Constraints
Number of rings (3<=n<=100)
Radius of each rings (1<=r<=1000)

Time Limit: 1 sec

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