

Recently *Yaghoub* is playing a new trick to sell some more. When somebody gives him A Tomans, he who never has appropriate changes, asks for B Tomans such that lowest common multiple of A and B equals to C and he will pay back a round bill. Or otherwise take some snack instead of the remaining of his money. He believes that finding such a number is hard enough that dissuades students from paying that.

You should write a program that help poor students giving the appropriate amount of money to Yaghoub. Of course if there are several answers you go for students' benefit which is the lowest of them.

Input

The first line begin with an integer T ($T \leq 100000$), the number of tests. Each test that comes in a separate line contains two integers A and C ($1 \leq A, C \leq 10^7$).

Output

Print the lowest integer B such that $LCM(A, B) = C$ in a single line. If no such integer exists, print 'NO SOLUTION' instead. (Quotes for clarity)

Sample Input

```
3
2 6
32 1760
7 16
```

Sample Output

```
3
55
NO SOLUTION
```