

11889 Benefit

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
```