



# Power of Cryptography

Mathematics, A

Timelimit: 1s

Given an integer  $n \geq 1$  and an integer  $p \geq 1$  you are to write a program that determines  $\sqrt[n]{p}$ , the  $n^{\text{th}}$  root of  $p$ . In this problem, given such integers  $n$  and  $p$ ,  $p$  will always be of the form  $k^n$  for an integer  $k$  (this integer is what your program must find).

**Input:** the input consists of a sequence of integer pairs  $n$  and  $p$  with each integer on a line by itself. For all such pairs  $1 \leq n \leq 200$ ,  $1 \leq p \leq 10^{101}$  and there exists an integer  $k$ ,  $1 \leq k \leq 10^9$  such that  $k^n = p$ .

**Output:** for each integer pair  $n$  and  $p$  the value  $\sqrt[n]{p}$  should be printed, i.e., the number  $k$  such that  $k^n = p$ .

Sample Input	Sample Output
2	4
16	3
3	1234
27	
7	
4357186184021382204544	