



**Problem F**  
*Irrational Roots*

Input File: F.in  
Output File: standard output  
Time Limit: 0.1 seconds (C/C++)  
Memory Limit: 256 megabytes

Let  $n$  be a natural number,  $n \leq 8$ . Consider the following equation:

$$x^n + c_{n-1}x^{n-1} + c_{n-2}x^{n-2} + \dots + c_1x + c_0 = 0$$

where  $c_{n-1}, c_{n-2}, \dots, c_1, c_0$  are integers and  $c_0 \neq 0$ .

It is known that all the  $n$  roots of the equation are real numbers. We consider that each root  $r$  of the equation satisfies the condition:  $-10 \leq r \leq 10$ . Also, there might be roots that appear more than once.

Find the number of irrational roots of the equation (an irrational root is a root that is an irrational number).

**Input**

The input file contains a single test. The first line of the input file contains the value of  $n$ . The second line contains the values of  $c_{n-1}, c_{n-2}, \dots, c_1, c_0$ : each two consecutive values are separated by a single space.

**Output**

The result will be written to standard output.

Sample input	Sample output
6 12 -12 -454 -373 3754 1680	2