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The Best Box

Problem code: J7

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Johnny needs to make a rectangular box for his physics class project. He has bought P cm of wire and S cm^2 of special paper. He would like to use all the wire (for the 12 edges) and paper (for the 6 sides) to make the box.
What is the largest volume of the box that Johnny can make?

Input

The first line contains t, the number of test cases (about 10). Then t test cases follow.
Each test case contains two integers P and S in a line ($1 \le P \le 40000$, $1 \le S \le 20000$). You may assume that there always exists an optimal solution for the given input cases.

Output

For each test case, print a real number that is the largest volume of the box that Johnny can make, rounded to two decimal places.

Example

Input:
```
2
20 14
20 16
```

Output:
```
3.00
4.15
```

Output details
First case: the dimensions of the largest box may be 3, 1 and 1.
Second case: the dimensions of the largest box may be 7/3, 4/3 and 4/3.

Author:	admin
Tags:	admin
Date Added:	15-10-2009
Time Limit:	0.5 sec
Source Limit:	50000 Bytes
Languages:	ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.9.2, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PHP, PIKE, PRLG, PYPY, PYTH, PYTH 3.1.2, RUBY, SCALA, SCM chicken, SCM guile, SCM qobi, ST, TEXT, WSPC

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