Interest rates P58512_en

Professor Obokaman and Professor Oak go to buy something cheap for lunch. As usual, Prof. Obokaman has no cash at hand, so he asks some coins to Prof. Oak.

"No problem", says Prof. Oak. "I lend you 5 euros. Since you are a good friend of mine, I will only charge you 1 euro per day until you return the coins to me."

Prof. Obokaman looks a bit puzzled by this offer, so Prof. Oak adds: "You see, now banks charge a daily interest rate of 0.013368%, right?"

Prof. Obokaman knows that banks charge 5% every year. Since he is a bright mathematician, he has no problems to mentally check that this is indeed true (assuming 365 days per year): $1.00013368^{365} \simeq 1.05$. "Yes, but..." he tries to say.

"Therefore", Prof. Oak interrupts, "if you wait enough days before returning the coins to me, let's see... 71589 days or more, to be precise, then my deal is better than the banks' offer."

Prof. Obokaman agrees that this reasoning is correct, but he is too polite to say that he will very likely return the coins sooner than that, losing a lot of money...

Input

Input consists of several test cases. Each test case consists of three real numbers: the amount of money m of the coins generously lent by Prof. Oak, the fixed amount of money f charged daily to Prof. Obokaman, and the % daily interest rate r offered by the banks. You can assume $0.1 \leq m \leq 1000$, $0.1 \leq f \leq 1000$, and $0.001 \leq r \leq 10$.

Output

For every test case, print the minimum number of days d that Prof. Obokaman should wait before returning the money to get a deal that is better than the banks' offer. Assume that the test cases have no precision issues, and that every solution d will be between 1 and 10^7.

Sample input 1

```
5 1 0.013368
199 20 1
999.9 0.9 0.1
999.9 1 0.1
```

Sample output 1

```
71589
365
1
2
```

Problem information

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