

Problem C: Clarity

You're playing the popular Action RPG "Path of Exile", and you're trying to optimize your mana consumption. As everyone knows, when you play this game you only cast a single spell over and over until you can't cast it any more. Seems easy enough, right? :)



You're interested in the maximum number of spells that you can cast before you can't cast the spell any more: to this end, you acquire the skill gem *Clarity*. *Clarity* increases the rate at which your mana regenerates, but it comes at a cost - it 'reserves' a portion of your mana, essentially lowering your maximum mana pool. As you play the game, you can level up the gem - higher levels of the gem increase both the mana regeneration rate and the amount of mana reserved. Your goal is to find the best level to get the gem to, so that you can cast the most spells possible. You are guaranteed that no level of *Clarity* will make it so that you can cast spells forever: you will eventually be unable to continue your casting without taking a break.

Your skill has a mana cost of C , and you cast it once per second. Your maximum mana is given by M , which will regenerate continuously at a base rate of B per second. The *Clarity* gem will reserve R mana *per level* and will increase your mana regeneration rate by I per second, *per level*. The gem can take any (integer) level between 0 and 100000 inclusive - your job is to find the best level(s) for it, and subsequently find out the maximum number of times you can cast your spell without having to pause to regenerate mana.

Input Specification:

The input begins with an integer T , the number of test cases. Following this are T lines, each containing several values. First on the line is an integer $1 \leq C \leq 10^6$, the mana cost of your skill, then an integer $1 \leq M \leq 10^7$, your maximum mana, then an integer $1 \leq B < C$, your base mana regeneration rate. The line ends with two more integers representing the values for the clarity gem: the amount of mana reserved per level $1 \leq R \leq 10^6$, and the amount of mana regeneration per second, per level $1 \leq I \leq 10^6$.

Output Specification:

For each test case output the maximum number of times that you can cast the spell.

Sample Input:

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2
1000000 10000000 1 1 1
200000 10000000 1 1 1
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Sample Output:

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10
98
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