A. Fight the Monster

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

A monster is attacking the Cyberland!

Master Yang, a braver, is going to beat the monster. Yang and the monster each have 3 attributes: hitpoints (HP), offensive power (TA K) and defensive power (DEF).

During the battle, every second the monster's HP decrease by $max(0, ATK_Y - DEF_M)$, while Yang's HP decreases by $max(0, ATK_M - DEF_Y)$, where index Y denotes Master Yang and index M denotes monster. Both decreases happen simultaneously Once monster's $HP \leq 0$ and the same time Master Yang's $HP > 0$, Master Yang wins.

Master Yang can buy attributes from the magic shop of Cyberland: h bitcoins per HP, a bitcoins per ATK, and d bitcoins per DEF.

Now Master Yang wants to know the minimum number of bitcoins he can spend in order to win.

Input

The first line contains three integers HP_Y, ATK_Y, DEF_Y, separated by a space, denoting the initial HP, ATK and DEF of Master Yang.

The second line contains three integers HP_M, ATK_M, DEF_M, separated by a space, denoting the HP, ATK and DEF of the monster.

The third line contains three integers h, a, d, separated by a space, denoting the price of 1 HP, 1 ATK and 1 DEF.

All numbers in input are **integer** and lie between 1 and 100 inclusively.

Output

The only output line should contain an integer, denoting the minimum bitcoins Master Yang should spend in order to win.

Examples

input
1 2 1 1 100 1 1 100 100
output
99

input
100 100 100 1 1 1 1 1 1
output
0

Note

For the first sample, prices for ATK and DEF are extremely high. Master Yang can buy 99 HP, then he can beat the monster with 1 HP left.

For the second sample, Master Yang is strong enough to beat the monster, so he doesn't need to buy anything.