Numbers and Letters P56003_en

Consider the following rules for a game, similar to those of a famous TV show: Six numbers $x_1, \ldots, x_6$ are generated at random between 1 and 1000. A random number g from 1 to 10^6 is also generated. The goal is to get the number g, or as close to it as possible. To do so, we may add, substract, multiply and divide the numbers of any non-empty subset of the six given numbers. No x_i may be used more than once. Additionally, all intermediate results must be between 0 and 10^9. The divisions must be exact. Obviously, we cannot divide by zero.

Can you compute the result that is closest to g? For instance, if $g = 982$ and we have the numbers $\{100, 75, 50, 25, 6, 3\}$, a possible solution (exact, in this case) is

$$982 = 6 \cdot ((100 + 75) - 3) - 50 \ .$$

Input

Input consists of several cases, each with g and $x_1, \ldots, x_6$.

Output

For every case, print the result that is closest to g. If there is a tie, choose the largest result.

Sample input

```
982  100 75 50 25 6 3
1000  10 10 10 10 10 10
1003  10 10 10 10 10 10
1  213 769 552 695 207 999
1000000  1 1 1 1 1 1
42  1000 42 867 999 600 235
```

Sample output

```
982
1000
1002
3
9
42
```

Problem information

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