Weak Encryption

For this problem, we will deal with a very weak encryption scheme. The alphabet can be mapped to numbers, e.g 'a' = 1, 'b' = 2, etc. This sequence is the basis for this problem. You will be given an equation consisting of a lower case variable, an operation, and a numerical value. e.g. x + 3 = 7. Solving this equation will give you the numeric value for x in the code. All values of the lower case alphabet will be represented relative to this value, so for example, if x is 4, y is 5, a is -19, etc. The space character will be one less than 'a', in this case, -20. Given an equation and a message, you must decode the message. Operations are: +, /, *, -

Input

Input will follow this pattern:
equation
message (optionally repeated)
end

Output

The output will be:
Message 1: "message"
Message 2: "message" etc.

Sample Input

```
x + 3 = 7
-11 0 -20 3 -5 -2 -9 -1 -20 -14 -5 -2 -20 -6 -15 -13 -19 0 -11 2 -15 -1
w / 90 = 647
58214 58225 58212 58208 58227 58207 58216 58211 58212 58208 58207 58213 58222 58225 58207 58208 58207 58223
58225 58222 58209 58219 58212 58220 58207 58229 58228
end
```

Sample Output

```
Message 1: it works with negatives
Message 2: great idea for a problem vu
```