3338   Paint Mix

You are given two large pails. One of them (known as the black pail) contains B gallons of black paint. The other one (known as the white pail) contains W gallons of white paint. You will go through a number of **iterations** of pouring paint first from the black pail into the white pail, then from the white pail into the black pail. More specifically, in each iteration you first pour C cups of paint from the black pail into the white pail (and thoroughly mix the paint in the white pail), then pour C cups of paint from the white pail back into the black pail (and thoroughly mix the paint in the black pail). B, W, and C are positive integers; each of B and W is less than or equal to 50, and $C < 16 * B$ (recall that 1 gallon equals 16 cups). The white pail's capacity is at least $B + W$.

As you perform many successive iterations, the ratio of black paint to white paint in each pail will approach B/W. Although these ratios will never actually be equal to B/W one can ask: how many iterations are needed to make sure that the black-to-white paint ratio in *each* of the two pails differs from B/W by less than a certain tolerance. We define the tolerance to be 0.00001.

Input

The input consists of a number of lines. Each line contains input for one instance of the problem: three positive integers representing the values for B, W, and C, as described above. The input is terminated with a line where $B = W = C = 0$.

Output

Print one line of output for each instance. Each line of output will contain one positive integer: the smallest number of iterations required such that the black-to-white paint ratio in *each* of the two pails differs from B/W by less than the tolerance value.

Sample Input

```
2 1 1
2 1 4
3 20 7
0 0 0
```

Sample Output

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145
38
66
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