G - Pandemic

Background

With the arrival of the COVID-19 our lives have changed drastically. In a few months since the first case, the disease became a pandemic.

In general, the spread of a disease depends on the reproduction number, or *R* value. When *R* is larger than 1, a virus spreads following an exponential curve.

The Problem

Given that when the first person that gets infected ("patient 0") we know the *R* number, the time that an ill person takes to recover, *R*, and the world population, *P*, we need to compute in how many days the entire world population will be infected.

We consider the following rules. On the first day, there is only one person infected. On the following days, each active person in the previous day infects *R* new people. Also, all people who were infected *D* days ago will recover. In this problem we are very pessimistic, and we consider that a person who recovers can become infected again as soon as he recovers.

The Input

Your program receives a situation to compute per line. Each situation consists of three positive integers. The first one represents the *R* number ($1 \leq R \leq 15$). The second one represents the number of days *D* to recover from the disease since the person got it ($1 \leq D \leq 30$). The third one represents the world population *P* ($1 \leq P \leq 1{,}000{,}000{,}000{,}000{,}000{,}000$). The input terminates with a line containing just a 0.

The Output

For each input case, your program must print the number of days that need to pass for the entire population to be currently infected, or the text "NEVER" if this case cannot happen.

Sample Input

```
1 1 1
1 1 2
1 2 3
1 2 1000000000000000000
3 30 6000000000
15 30 1000000000000000000
0
```

Sample Output

```
1
NEVER
3
87
18
16
```