Vinfast Battery-lease Policy

Vinfast has battery-lease policy. A battery for a car cost **N** VND. Customer could rent battery at a cost of **X** VND **per month**. When a battery capacity drops below 70%, Vinfast will recall and replace the battery with a new one. The recalled battery is used to store electricity. Vinfast estimates that after **T** months, they have to recall battery, **at the time of recall, the battery has a value of M VND**. Suppose the interest rate a bank offer is **r% per month** for Vinfast to buy battery. Your task is to write a program to calculate the **minimum X** so that Vinfast can at least make a profit (no loss).

Input

The only line contains 3 integers N, M, T and a real number r ($0 < N, M < 10^9, 0 < T \le 240, 0 < r \le 15$).

Output

Print out minimum X (rounded to the nearest integer).

Sample

Input	Output
120000000 0 120 1	1721651
178000000 50000000 72 1	3002425