Daisy Chaining Bonanza

Filename: *daisychain*
Time Limit: *1 second*

To make sure that students don't run out of power on their laptops, Arup has been bringing in power strips into HEC-111 each Friday. However, since he bought the cheapest power strips possible, the chords that connect them to the main power outlets are extremely small. This means that so enough students can reach the power strips, a few of them must be "daisy chained" togehter into groups. Specifically, if a group of k power strips are daisy chained, one is plugged into the wall, while a second is plugged into one of the outlets provided on the first power string, a third is plugged into one of the outlets provided on the second power strip, and so forth. Only the last (k^{th}) power strip doesn't have any other power string plug plugged into it.

Arup would love to expand COP 4516 because he thinks that everyone should learn about programming contests! But to do so, he needs your help to figure out how many computers could plug into all of the power strips given various configurations. Write a program to help him.

The Problem

Given the number of power strips available, the number of plugs in each power strip, and the number of power strips daisy chained together in each group, determine the number of laptops that can be plugged in. It's possible that the last group of power strips will be incomplete. For example, if there are 10 power strips to be daisy chained in groups of 4, then there will be two groups of four with the last group being two daisy chained power strips.

The Input

The first line of input will consist of a single positive integer, c ($c \leq 25$), representing the number of input cases to process. Each input case contains of three space separated positive integers on a single line, n ($2 \leq n \leq 10^9$), representing the number of power strips, p ($1 \leq p \leq 10^6$), the number of plugs in each power strip, and g ($2 \leq g \leq 10^3$), the number of power strips in each group daisy chained together.

The Output

For each input case, output the number of computers that can be plugged in for that particular scenario on a line by itself.

Sample Input	Sample Output
2 10 6 4 1000000000 8 10	53 7100000000