Problem

Read problem statements in Vietnamese,

Bengali, Mandarin Chinese, and Russian as well.

Chef is planning a heist in the reserve bank of Chefland. They are planning to hijack the bank for D days and print the money. The initial rate of printing the currency is P dollars per day and they increase the production by Q dollars after every interval of d days. For example, after d days the rate is $P + Q$ dollars per day, and after $2d$ days the rate is $P + 2Q$ dollars per day, and so on. Output the amount of money they will be able to print in the given period.

Input

- The first line contains an integer T, the number of test cases. Then the test cases follow.
- Each test case contains a single line of input, four integers D, d, P, Q.

Output

For each test case, output in a single line the answer to the problem.

Constraints

- $1 \leq T \leq 10^5$
- $1 \leq d \leq D \leq 10^6$
- $1 \leq P, Q \leq 10^6$

Subtasks

Subtask #1 (15 points): $d \leq D \leq 100$

Subtask #2 (85 points): original constraints

Sample 1:

Input	Output
3 2 1 1 1 3 2 1 1 5 2 1 2	3 4 13

Explanation:

Test Case 1:

- On the first day, the rate of production is 1 dollar per day so 1 dollar is printed on the first day.
- On the second day, the rate of production is $1 + 1 = 2$ dollars per day so 2 dollars are printed on the second day.
- The total amount of money printed in 2 days is $1 + 2 = 3$ dollars.

Test Case 2:

- For the first two days, the rate of production is 1 dollar per day so $1 \cdot 2 = 2$ dollars are printed on the first two days.
- On the third day, the rate of production is $1 + 1 = 2$ dollars per day so 2 dollars are printed on the third day.
- The total amount of money printed in 3 days is $2 + 2 = 4$ dollars.

Test Case 3:

- For the first two days, the rate of production is 1 dollar per day so $1 \cdot 2 = 2$ dollars are printed on the first two days.