A. Soldier and Bananas

time limit per test

1 second

memory limit per test

256 megabytes

input

standard input

output

standard output

A soldier wants to buy *w* bananas in the shop. He has to pay *k* dollars for the first banana,2*k* dollars for the second one and so on (in other words, he has to pay *i*·*k* dollars for the *i*-th banana).

He has *n* dollars. How many dollars does he have to borrow from his friend soldier to buy *w*bananas?

**Input**

The first line contains three positive integers *k*, *n*, *w* (1  ≤  *k*, *w*  ≤  1000, 0 ≤ *n* ≤ 109), the cost of the first banana, initial number of dollars the soldier has and number of bananas he wants.

**Output**

Output one integer — the amount of dollars that the soldier must borrow from his friend. If he doesn't have to borrow money, output 0.

**Sample test(s)**

**input**

3 17 4

**output**

13

<http://codeforces.com/problemset/problem/546/A>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication1

{

class Program

{

static void Main(string[] args)

{

string input = Console.ReadLine();

long k = long.Parse(input.Split(' ')[0]);

long n = long.Parse(input.Split(' ')[1]);

long w = long.Parse(input.Split(' ')[2]);

long sum = 0;

for (int i = 1; i <= w; i++)

{

sum += (i \* k);

}

if (n >= sum)

{

Console.WriteLine("0");

}

else

{

Console.WriteLine(sum - n);

}

Console.ReadLine();

}

}

}