# Width of The Lost Box

Minas had a box of marble which is lost last week. About that box Minas only know that length and height of the box was **L** and **H**, and box contains **K** marbles. But he forget the width of the box. But he remember that **width = 2 * radius** of marble and width is also an integer. You can assume that all marble are same.

Now, Minas will give you **L, H** and **K**. You need to tell him the width of the box. If the width is less than 1 then print **-1**.

## Input

Input starts with an integer **T (1<=T<=1000)**, denoting the number of test cases.
Each case contains 3 integer **L (1 ≤ L ≤ 10^9)**, **H (1 ≤ H ≤ 10^9)** and **K (1 ≤ K ≤ 10^9)**.

## Output

For each case of input, print the case number as **"Case #: x"**, **#** is replaced by the case number starting from 1 and **x** is replaced by the **maximum possible** width of the box.

## Example

**Input:**
1
2 2 4

**Output:**
Case 1: 1