Discount

Jojo is browsing the internet while suddenly he sees an ad about the new cafe. The promotion is if the price of an item is N dollars, then you can buy the second item for half the price, the third item for a quarter of the original price, and so on, but if it becomes less than M dollars, then you have to pay M dollars. He wonders how much he has to pay if he buys K item.

Format Input
The first line will contain an integer T, the number of test cases.
Each test case will have 3 integers N, M, and K, each denoting the original price, the minimum price, and the amount Jojo is going to buy.

Format Output
For each test case, print “Case #X: “ (X starts with 1), then followed by the price Jojo has to pay rounded to 3 decimal digits.

Constraints
1 <= T <= 10
1 <= M <= N <= 1,000,000,000
1 <= K <= 1,000,000,000

Sample Input	Sample Output
3 10 5 3 100 5 3 100 100 4	Case #1: 20.000 Case #2: 175.000 Case #3: 400.000

Explanation
In the first case, the original price is 10 dollars, the price for the second item is 5 dollars, the price for the third item is 5 dollars too because 2.5 is less than 5.
In the third case, all item won’t be lower than the original price.