1. THE SUM OF TWO NUMBERS IS 45 AND THEIR DIFFERENCE IS 1/9 OF THEIR SUM. FIND THEIR LCM.

ANSWER : To find the LCM of two numbers, we need to know their values first. To find the values of the two numbers, we need to solve the simultaneous equations given by:

x + y = 45 x - y = (1/9) x 45

[According to the search results1](https://www.bbc.co.uk/bitesize/guides/z9y9jty/revision/1), we can use different methods to solve simultaneous equations, such as substitution, elimination and matrix method. Here, we will use the elimination method, which means we will add or subtract the two equations to eliminate one of the variables.

To eliminate y, we can add the two equations:

**x + y = 45 x - y = 5**

2x = 50

Then, we can divide both sides by 2 to get x:

2x = 50 x = 50/2 x = 25

To find y, we can substitute x = 25 into either equation. For example:

x + y = 45 25 + y = 45 y = 45 - 25 y = 20

Now that we have the values of x and y, we can find their LCM using any of the methods mentioned in the search results[2](https://byjus.com/maths/simultaneous-equations/). Here, we will use the prime factorization method, which means we will write the prime factors of each number and multiply the highest power of each prime factor.

The prime factors of x = 25 are:

25 = 5 x 5

The prime factors of y = 20 are:

20 = 2 x 2 x 5

The highest power of each prime factor among x and y are:

2: The highest power is 2^2 in y 5: The highest power is 5^2 in x

The LCM is the product of these highest powers:

LCM = 2^2 x 5^2 LCM = 4 x 25 LCM = **100**

2. THE HCF OF THREE NUMBERS IS 24. IF THESE NUMBERS ARE IN THE RATIO 35: 55: 77, THEN WHAT ARE THOSE NUMBERS?

To find the three numbers, we need to use the fact that the HCF of the numbers is 24 and the ratio of the numbers is 35:55:77. This means that the numbers are 24 times their ratio values. So, we can multiply 24 by each ratio value to get the numbers:

First number = 24 x 35 = 840 Second number = 24 x 55 = 1320 Third number = 24 x 77 = 1848

Therefore, the three numbers are **840, 1320 and 1848**.