Find the least number which when divided by 12, 27 and 35 leaves 6 as a remainder?

ANSWER:

To find the least number that leaves 6 as a remainder when divided by 12, 27 and 35, we need to find the least common multiple (LCM) of these numbers and then add 6 to it. According to the search results[1](https://byjus.com/maths/lcm/), there are different methods to find the LCM of a set of numbers, such as listing the multiples, prime factorization and division method. Here, we will use the prime factorization method.

First, we need to write the prime factors of each number:

12 = 2 x 2 x 3 27 = 3 x 3 x 3 35 = 5 x 7

Next, we need to identify the highest power of each prime factor among the three numbers:

2: The highest power is 2^2 in 12 3: The highest power is 3^3 in 27 5: The highest power is 5^1 in 35 7: The highest power is 7^1 in 35

Then, we need to multiply these highest powers together to get the LCM:

LCM = 2^2 x 3^3 x 5^1 x 7^1 LCM = 4 x 27 x 5 x 7 LCM = 3780

Finally, we need to add 6 to the LCM to get the least number that leaves 6 as a remainder when divided by 12, 27 and 35:

Least number = LCM + 6 Least number = 3780 + 6 Least number = **3786**