Playing with Numbers Ex 2.10 Q1

Answer :

We have to find prime factorisation of 24, 36, and 54.

Prime factorisation of 24 = 2 × 2 × 2 × 3
Prime factorisation of 36 = 2 × 2 × 3 × 3
Prime factorisation of 54 = 2 × 3 × 3 × 3
∴ Required LCM = 2 × 2 × 2 × 3 × 3 × 3 = 216

Thus, 216 is the smallest number exactly divisible by 24, 36, and 54.
To get the remainder as 5:
Smallest number = 216 + 5 = 221
Thus, the required number is 221.

Playing with Numbers Ex 2.10 Q2

Answer :

We have to find prime factorisation of 33 and 39.

Prime factorisation of 33 = 3 × 11
Prime factorisation of 39 = 3 × 13
∴ Required LCM = 3 × 11 × 13 = 429

Thus, 429 is the smallest number exactly divisible by 33 and 39.
To get the remainder as 5:
Smallest number = 429 + 5 = 434
Thus, the required number is 434.

Playing with Numbers Ex 2.10 Q3

Answer :

To find the required least number, we have to find the LCM of the numbers from 1 to 10.
We know that 2, 3, 5, and 7 are prime number.

Prime factorisation of 4 = 2 × 2
Prime factorisation of 6 = 2 × 3
Prime factorisation of 8 = 2 × 2 × 2
Prime factorisation of 9 = 3 × 3
Prime factorisation of 10 = 2 × 5

∴ Required least number = 2 × 2 × 2 × 3 × 3 × 5 × 7 = 2,520

********** END **********