Playing with Numbers Ex 2.5 Q9

Answer :

(i) Sum of the given digits = 6 + 7 + 1 + 9 = 23
The multiple of 9 which is greater than 23 is 27.
Therefore, the smallest required number = 27 − 23 = 4

(ii) Sum of the given digits = 6 + 6 + 7 + 8 + 4 = 31
The multiple of 9 which is greater than 31 is 36.
Therefore, the smallest required number = 36 − 31 = 5

(iii) Sum of the given digits = 5 + 3 + 8 + 8 = 24
The multiple of 9 which is greater than 24 is 27.
Therefore, the smallest required number = 27 − 24 = 3

Playing with Numbers Ex 2.5 Q10

Answer :

Rule: A number is divisible by 11 if the difference of the sums of the alternate digits is either 0 or a multiple of 11.

(i) **86 × 72**

Sum of the digits at the odd places = 8 + missing number + 2 = missing number + 10
Sum of the digits at the even places = 6 + 7 = 13
Difference = [missing number + 10] − 13 = Missing number − 3
According to the rule, missing number − 3 = 0 [∵ the missing number is a single digit]
Thus, missing number = 3
Hence, the smallest required number is 3.

(ii) **467 × 91**

Sum of the digits at the odd places = 4 + 7 + 9 = 20
Sum of the digits at the even places = 6 + missing number + 1 = missing number + 7
Difference = 20 − [missing number + 7] = 13 − missing number
According to rule, 13 − missing number = 11 [∵ the missing number is a single digit]
Thus, missing number = 2
Hence, the smallest required number is 2.

(iii) **9 × 8071**

Sum of the digits at the odd places = 9 + 8 + 7 = 24
Sum of the digits at the even places = missing number + 0 + 1 = missing number + 1
Difference = 24 − [missing number + 1] = 23 − missing number
According to rule, 23 − missing number = 22 [∵ 22 is a multiple of 11 and the missing number is a single digit]
Thus, missing number = 1
Hence, the smallest required number is 1.

Playing with Numbers Ex 2.5 Q11

Answer :

(i) A number which is divisible by 2 but not by 4 is 6.
(ii) A number which is divisible by 3 but not by 6 is 9.
(iii) A number which is divisible by 4 but not by 8 is 28.
(iv) A number which is divisible by 4 and 8 but not by 32 is 48.

Playing with Numbers Ex 2.5 Q12

Answer :

(i) False. 12 is divisible by 3 but not by 9.
(ii) True.
(iii) False. 20 is divisible by 4 but not by 8.
(iv) True.
(v) False. 12 is divisible by both 3 and 6 but it is not divisible by 18.
(vi) True.
(vii) False. 10 divides the sum of 18 and 2 (i.e., 20) but 10 divides neither 18 nor 2.
(viii) True.
(ix) False. 4 and 9 are co-primes and both are composite numbers.
(x) True.

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