



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)  $86 \times 72$

Sum of the digits at the odd places =  $8 + \text{missing number} + 2 = \text{missing number} + 10$

Sum of the digits at the even places =  $6 + 7 = 13$

Difference =  $[\text{missing number} + 10] - 13 = \text{Missing number} - 3$

According to the rule,  $\text{missing number} - 3 = 0$  [ $\because$  the missing number is a single digit]

Thus,  $\text{missing number} = 3$

Hence, the smallest required number is 3.

(ii)  $467 \times 91$

Sum of the digits at the odd places =  $4 + 7 + 9 = 20$

Sum of the digits at the even places =  $6 + \text{missing number} + 1 = \text{missing number} + 7$

Difference =  $20 - [\text{missing number} + 7] = 13 - \text{missing number}$

According to rule,  $13 - \text{missing number} = 11$  [ $\because$  the missing number is a single digit]

Thus,  $\text{missing number} = 2$

Hence, the smallest required number is 2.

(iii)  $9 \times 8071$

Sum of the digits at the odd places =  $9 + 8 + 7 = 24$

Sum of the digits at the even places =  $\text{missing number} + 0 + 1 = \text{missing number} + 1$

Difference =  $24 - [\text{missing number} + 1] = 23 - \text{missing number}$

According to rule,  $23 - \text{missing number} = 22$  [ $\because$  22 is a multiple of 11 and the missing number is a single digit]

Thus,  $\text{missing number} = 1$

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.

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