Playing with Numbers Ex 2.1 Q4

Answer :

(i) 15 is not a factor of 15,625 because it is not a divisor of 15,625.

(ii) 15 is a factor of 1,23,015 because it is a divisor of 1,23,015.

i.e., 8,201 × 15 = 1,23,015

Playing with Numbers Ex 2.1 Q5

Answer :

We know that a given number is divisible by 21 if it is divisible by each of its factors.
The factors of 21 are 1, 3, 7 and 21.

(i) Sum of the digits of the given number = 2 + 1 + 0 + 6 + 3 = 12 which is divisible by 3.
Hence, 21,063 is divisible by 3.

Again, a number is divisible by 7 if the difference between twice the one's digit and the number formed by the other digits is either 0 or a multiple of 7.
2,106 − (2 × 3) = 2,100 which is a multiple of 7.
Thus, 21,063 is divisible by 21.

(ii) Sum of the digits of the given number = 2 + 0 + 1 + 6 + 3 = 12 which is divisible by 3.
Hence, 20,163 is divisible by 3.

Again, a number is divisible by 7 if the difference between twice the one's digit and the number formed by the other digits is either 0 or multiple of 7.
2016 − (2 × 3) = 2010 which is not a multiple of 7.
Thus, 20,163 is not divisible by 21.

Playing with Numbers Ex 2.1 Q6

Answer :

(i) 1,111
The sum of the digits at the odd places = 1 + 1 = 2
The sum of the digits at the even places = 1 + 1 = 2
The difference of the two sums = 2 − 2 = 0
∴ 1,111 is divisible by 11 because the difference of the sums is zero.

(ii) 11,011
The sum of the digits at the odd places = 1 + 0 + 1 = 2
The sum of the digits at the even places = 1 + 1 = 2
The difference of the two sums = 2 − 2 = 0
∴ 11,011 is divisible by 11 because the difference of the sums is zero.

(iii) 1,10,011
The sum of the digits at the odd places = 1 + 0 + 1 = 2
The sum of the digits at the even places = 1 + 0 + 1 = 2
The difference of the two sums = 2 − 2 = 0
∴ 1,10,011 is divisible by 11 because the difference of the sums is zero.

(iv) 11,00,011
The sum of the digits at the odd places = 1 + 0 + 0 + 1 = 2
The sum of the digits at the even places = 1 + 0 + 1 = 2
The difference of the two sums = 2 − 2 = 0
∴ 11,00,011 is divisible by 11 because the difference of the sums is zero.

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

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