



#### 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.

$$\text{i.e., } 8,201 \times 15 = 1,23,015$$

#### 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.

$$2,106 - (2 \times 3) = 2,100 \text{ which is a multiple of 7.}$$

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.

$$2016 - (2 \times 3) = 2010 \text{ which is not a multiple of 7.}$$

Thus, 20,163 is not divisible by 21.

#### Playing with Numbers Ex 2.1 Q6

**Answer :**

(i) 1,111

$$\text{The sum of the digits at the odd places} = 1 + 1 = 2$$

$$\text{The sum of the digits at the even places} = 1 + 1 = 2$$

$$\text{The difference of the two sums} = 2 - 2 = 0$$

$\therefore$  1,111 is divisible by 11 because the difference of the sums is zero.

(ii) 11,011

$$\text{The sum of the digits at the odd places} = 1 + 0 + 1 = 2$$

$$\text{The sum of the digits at the even places} = 1 + 1 = 2$$

$$\text{The difference of the two sums} = 2 - 2 = 0$$

$\therefore$  11,011 is divisible by 11 because the difference of the sums is zero.

(iii) 1,10,011

$$\text{The sum of the digits at the odd places} = 1 + 0 + 1 = 2$$

$$\text{The sum of the digits at the even places} = 1 + 0 + 1 = 2$$

$$\text{The difference of the two sums} = 2 - 2 = 0$$

$\therefore$  1,10,011 is divisible by 11 because the difference of the sums is zero.

(iv) 11,00,011

$$\text{The sum of the digits at the odd places} = 1 + 0 + 0 + 1 = 2$$

$$\text{The sum of the digits at the even places} = 1 + 0 + 1 = 2$$

$$\text{The difference of the two sums} = 2 - 2 = 0$$

$\therefore$  11,00,011 is divisible by 11 because the difference of the sums is zero.

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