

8th Standard- Maths

Playing with Numbers

Any two digit number can be written as ab , where a and b are its tens and one's digit respectively.

A 2-digit number is of the form $10a + b$, where a is any whole number from 1 to 9 and b is any whole number from 0 to 9.

A 3-digit number is of the form $100a + 10b + c$, where a is any whole number from 1 to 9, b is any whole number from 0 to 9 and c is any whole number from 0 to 9.

Test of Divisibility:

- A number is divisible by 2 only when its unit digit is even.
- A number is divisible by 3 only when the sum of its digits is divisible by 3.
- A number is divisible by 4 if the number formed by its last two digits is divisible by 4.
- A number is divisible by 5 only when its unit digit is 0 or 5.
- A number is divisible by 6 if it is divisible by both 2 and 3.
- A number is divisible by 8 if it is divisible by both 2 and 4.
- A number is divisible by 9 only when the sum of its digits is divisible by 9.
- A number is divisible by 10 if its unit digit is zero.

A number is even or odd according to its one's digit.

Numbers in General Form

The general form of numbers helps us in solving puzzles or number games. A two digit number ab can be written in general form as $ab = 10a + b$.

Games With Numbers

- Reversing the digits-two digit number
- Reversing the digits-three digit number
- Forming three-digit numbers with given three-digits

Letters for Digits

Here, we have puzzles in which letters are used in place of digits in an arithmetic 'sum', and the problem is to find out the digit represented by the letter used. We shall confine here to the problems of addition and multiplication.

The following rules are followed while solving such puzzles.

Rules

- Each letter must stand for just one digit. Each digit must be represented by just one letter.
- The first digit of a number cannot be zero.

Tests of Divisibility

Here, we shall go into the 'why' aspect of the various tests of divisibility. We shall find that the reasons for the divisibility of the numbers by 10, 5, 2, 9 or 3 can be given by writing the numbers in their general form.

Divisibility By 10

A number is divisible by 10 when it's ones digit is 0.

Divisibility By 5

A number is divisible by 5 when it's one's digit is either 0 or 5.

