Natural Numbers - Mathematics Form 1 Notes

Introduction

Place Value

- A digit can have a different value in a number because of its position in a number. The position of a digit in a number is called its **place value.**

Total Value

- This is the product of the digit and its place value.

Example

Number	Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundred	Tens	ones
345,678,901	3	4	5	6	7	8	9	0	1

769,301,854	7	6	9	3	0	1	8	5	4
902,350,409	9	0	2	3	5	0	4	0	9

- A place value chart can be used to identify both place value and total value of a digit in a number. The place value chart is also used in writing numbers in words.

Example

- Three hundred and forty five million, six hundred and seventy eight thousand, nine hundred and one.
- Seven hundred and sixty nine million, Three hundred and one thousand, eight hundred and fifty four.

Billions

- A billion is one thousands million, written as 1, 000, 000,000.There are ten places in a billion.

  Example

  What is the place value and total value of the digits below?
  - a. 47,397,263,402 (place value 7 and 8).
  - b. 389,41 0 ,000,245 (place 3 and 9)

  Solution

  - a. The place value for 6 is ten thousands. Its total value is 60,000.
  - b. The place value of 3 is hundred billions. Its total value is 300,000,000,000.

Rounding Off

- When rounding off to the nearest ten, the ones digit determines the ten i.e. if the ones digit is 1 , 2, 3, or 4 the nearest ten is the ten number being considered.
- If the ones digit is 5 or more the nearest ten is the next ten or rounded up.
- Thus 641 to the nearest ten is 640, 31 89 to the nearest is 31 90.
- When rounding off to the nearest 1 00, then the last two digits or numbers end with 1 to 49 round off downwards.
- Number ending with 50 to 99 are rounded up.
- Thus 641 to the nearest hundred is 600, 31 89 is 3200.

  Example

  Rounding off each of the following numbers to the nearest number indicated in the bracket:
  - a. 473,678 (1 00)
  - b. 524,239 (1 000)
  - c. 2,499 (1 0)

  Solution

  - a. 473,678 is 473,700 to the nearest 100.
  - b. 524,239 is 524,000 to the nearest 1000
  - c. 2,499 is 2500 to the nearest 10.

Operations on Whole Numbers

Addition

Example

Find out:

1. 98 + 6734 + 348
2. 6349 + 259 +7954