

L5 Place value – The international system

The following table shows the place values for very large numbers (i.e. numbers greater than 10,000) shown in the International system.

Billions			Millions			Thousands			Units			Place Value
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	
0	0	0	0	0	0	0	0	0	0	0	1	One
0	0	0	0	0	0	0	0	0	0	1	0	Ten
0	0	0	0	0	0	0	0	0	1	0	0	Hundred
0	0	0	0	0	0	0	0	1	0	0	0	One thousand
0	0	0	0	0	0	0	1	0	0	0	0	Ten thousand
0	0	0	0	0	0	1	0	0	0	0	0	Hundred thousand
0	0	0	0	0	1	0	0	0	0	0	0	One million
0	0	0	0	1	0	0	0	0	0	0	0	Ten million
0	0	0	1	0	0	0	0	0	0	0	0	Hundred million
0	0	1	0	0	0	0	0	0	0	0	0	One billion
0	1	0	0	0	0	0	0	0	0	0	0	Ten billion
1	0	0	0	0	0	0	0	0	0	0	0	Hundred billion
1	1	1	1	1	1	1	1	1	1	1	1	

Period 4
Period 3
Period 2
Period 1

Note the following:

- 1) There is a cycle to the way the numbers are written. It repeats every 3 places. For instance, after One, Ten, Hundred, we start the Thousands group which also has One, Ten, and Hundred. We say One thousand, Ten thousand, and Hundred thousand.
- 2) When we write a number we put a comma between the groups.
- 3) The above number is read as One hundred and eleven billion, one hundred and eleven million, one hundred and eleven thousand, one hundred and eleven.

Billions			Millions			Thousands			Units		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
0	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	4	0
0	0	0	0	0	0	0	0	0	7	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	5	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0
0	0	0	0	0	9	0	0	0	0	0	0
0	0	0	0	8	0	0	0	0	0	0	0
0	0	0	7	0	0	0	0	0	0	0	0
0	0	3	0	0	0	0	0	0	0	0	0
0	6	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0
4	6	3	7	8	9	1	5	0	7	4	2

Note the following:

- When we write a number in the standard form, each digit can be one of 9, 8, 7, 6, 5, 4, 3, 2, 1, 0
- We put commas according to the cycles

The number shown above is written as: 463,789,150,742 and is read as: Four hundred and sixty three billion, seven hundred and eighty nine million, one hundred and fifty thousand, seven hundred and forty two.

Take the following number as an example

6 9 4 8 3 2 1 5 7

In the International system this number is written as 694,832,157 and read as Six hundred ninety four million, eight hundred thirty two thousand, one hundred and fifty seven. The expanded form is:

$600,000,000 + 90,000,000 + 4,000,000 + 800,000 + 30,000 + 2,000 + 100 + 50 + 7$

5.1.1 How would you read the above number using the Indian system of enumeration and what is the expanded form?

5.1.2 Write the following in International expanded form and standard form.

- a. Three billions, sixty five millions, two thousand and seventy five.
- b. 4 millions and eleven.
- c. Six hundred eighty nine billions, two millions, and five hundred and twenty.
- d. Ten million, four thousand, and one.

End of L5