Chapter- 5

Operations on larger numbers

STUDY NOTES

I am reading this chapter to know:

- Addition
- Subtraction
- Multiplication
- Division
- Story sums

Addition :

To find the sum of two or more large numbers, follow the given steps.

STEPS

1. Arrange the given numbers in the appropriate columns.
2. Add the digits in each column carrying over, if necessary.
3. Continue the process till all the digits in all the columns are added.

Example 1 :

Add : 6562367 and 1438643

Solution:

	C	L	TTh	Th	H	T	O
	1	1	1	1	1	1	
	6	5	6	2	3	6	7
+	1	4	3	8	6	4	3
	8	0	0	1	0	1	0

So, the sum is : 8001010

Addition facts and properties of addition:

Addition facts:

- The numbers being added are called addends.
- The answer of addition is called sum.
- The change in the order of the addends does not change their sum.
  Ex- 3 + 10 = 10 + 3 = 13
- If three or more numbers are added in different groups, their sum remains the same in all cases.
  Ex- (10 + 2) + 5 = 10 + (2 + 5)
- The sum of any number and zero is the number itself.
  Ex- 345 + 0 = 345
- If we add 1 to a given number, then we can get the successor of the given number.

Subtraction :

STEPS

1. Arrange the given numbers in the appropriate columns. Always keep the bigger number on the top.
2. Starting with ones, keep subtracting column wise while borrowing from the next column to the left wherever required (regrouping).

Example 1 :

Subtract : 1384257 from 4840366

Solution:

	C	L	TTh	Th	H	T	O
		7	13	10		5	16
	4	~~8~~	~~4~~	~~0~~	3	~~6~~	~~6~~
-	1	3	8	4	2	5	7
	3	4	5	6	1	0	9

So, the difference is : 3456109

Subtraction facts :

- The number which is subtracted is called the subtrahend.
- The number from which the subtrahend is subtracted is called as minuend.
- The result we get after the subtraction is called the difference.

Properties of subtraction :

1.When 0 is subtracted from a number, the difference is the number itself.

For example:

75384 - 0 = 75384

2. When we subtract 1 from a number, we get the predecessor of the number.

For example :

864293 -1 = 864292

3. Subtraction of a number from the number itself will give 0 as the answer.

For example : 460278 – 460278 = 0

Multiplication:

Large numbers are multiplied in the same way as smaller numbers. Multiplication may or may not involve re-grouping.

Example 1 :

Multiply : 3212 × 23

Solution

	TL	L	TTh	Th	H	T	O
				3	2	1	2
×					2	3	5
			1	6	0	6	0
			9	6	3	6	0
+		6	4	2	4	0	0
		7	5	4	8	2	0

So, the answer is : 754820

Multiplication facts and properties of multiplication:

1. Multiplication means repeated addition.
2. Multiplication is denoted by symbol ✖ .
3. If a number is multiplied by 1, the product is the number itself.

Example:

5684 × 1 = 5684

4. Product of any number multiplied by zero (0) is always zero.

Example:

6743 × 0 = 0

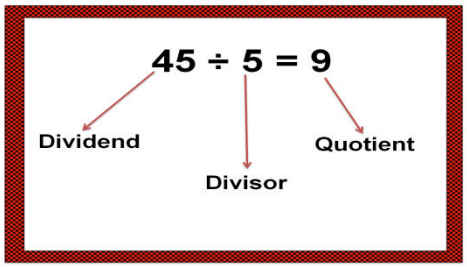
5. If we multiply two numbers in any order, the product remains the same.

Example:

568 × 23 = 23 × 568= 13,064

Division:

Division of 5- and 6-digit numbers by a 2- and 3-digit number is done in the same way.



Division facts :

1. The number to be divided is called the dividend.
2. The number by which dividend is divided is called the divisor.
3. The result obtained by the process of division is called the quotient.
4. The number which is left over after finding the quotient is called the remainder.
5. Remainder is always smaller than the divisor.
6. Division is the reverse process of multiplication.
7. Division is the repeated subtraction i.e. the number of times, divisor is subtracted from dividend gives us the quotient.
8. Large numbers are divided in the same way as smaller numbers.
9. Division is denoted by symbol ÷

Example 1 :

Divide : 2,83,419 by 378

						7	4	9
3	7	8	2	8	3	4	1	9
		-	2	6	4	6	↓	
				1	8	8	1	↓
			-	1	5	1	2	
					3	6	9	9
				-	3	4	0	2
						2	9	7

So, Quotient = 749; Remainder = 297

Check by multiplication : 378 × 749 = 283122 + 297 = 2833419

Properties of division :

1. When a number is divided by 1, the quotient is the number itself.

   Example: 7384 ÷ 1 = 7384

2. When 0 is divided by a number, the quotient is 0.

   Example: 0 ÷ 8497 = 0

3. When a number is divided by itself, the quotient is 1.

   Example: 4965 ÷ 4965 = 1

4. Division of any number by 0 is not possible.

Story sums :

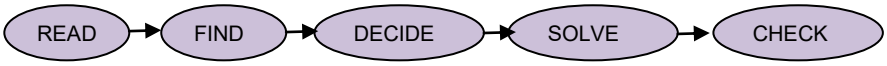
Simple steps for solving Story sums.

1. Read the story sums carefully and understand the given information……
2. Identify and list the facts……
3. Figure out exactly what the problem is asking for ……
4. Eliminate the extra information…….

5. Draw a diagram....

6. Solve the story sum and check your answer.

You can recall the following hints to remember the steps.



Example 1 :

Each box has 2254 pencils. How many pencils will 62 such boxes have?

Solution:

Number pencils in each box= 2254

Number of boxes = 62

Number of pencils in all the boxes = 2254 × 62

= 139748

	TL	L	TTh	Th	H	T	O
				2	2	5	4
×						6	2
				4	5	0	8
		1	3	5	2	4	0
+		1	3	9	7	4	8