CHAPTER-2

Operations

Addition & Subtraction

We have done addition and subtraction of numerals in 4 digits in the previous class. Let us revise :

A. Solve

(1) $\begin{array}{r} 3\,7\,2\,1 \\ +\,2\,5\,1\,0 \\ \hline \\ \hline \end{array}$

(2) $\begin{array}{r} 1\,5\,7 \\ 6\,8\,3\,2 \\ +\,5\,3\,1\,8 \\ \hline \\ \hline \end{array}$

(3) $\begin{array}{r} 9\,5 \\ 7\,2\,1 \\ 5\,3\,2\,8 \\ +\quad 3\,7 \\ \hline \\ \hline \end{array}$

(4) $\begin{array}{r} 2\,7\,3\,1 \\ -\,1\,5\,4\,2 \\ \hline \\ \hline \end{array}$

(5) $\begin{array}{r} 6\,7\,1\,0 \\ -\quad 5\,2\,8 \\ \hline \\ \hline \end{array}$

(6) $\begin{array}{r} 5\,6\,3\,2 \\ -\,3\,3\,0\,7 \\ \hline \\ \hline \end{array}$

B. Fill in the boxes with the correct number:

(1) $\begin{array}{r} 6\,8\,8\,2 \\ +\,2\,\square\,3\,8 \\ \hline \square\,3\,\square\,0 \\ \hline \end{array}$

(2) $\begin{array}{r} 4\,2\,4\,5 \\ +\,3\,1\,\square\,8 \\ \hline 7\,\square\,3\,\square \\ \hline \end{array}$

(3) $\begin{array}{r} 5\,3\,0\,\square \\ +\,\square\,8\,\square\,8 \\ \hline 9\,\square\,0\,7 \\ \hline \end{array}$

(4) $\begin{array}{r} 5\,8\,2\,0 \\ +\,3\,\square\,3\,7 \\ \hline \square\,0\,8\,\square \\ \hline \end{array}$

(5) $\begin{array}{r} 8\,3\,3\,8 \\ +\,\square\,6\,2\,\square \\ \hline 9\,\square\,\square\,9 \\ \hline \end{array}$

(6) $\begin{array}{r} \square\,7\,\square\,6 \\ +\,2\,6\,8\,\square \\ \hline 7\,\square\,1\,7 \\ \hline \end{array}$

Addition of numerals with 5 digits

See and understand

Example 1:

	Tth	Th	H	T	O
	3	2	7	8	5
+	1	3	2	1	3
	4	5	9	9	8

Example 2 :

	Tth	Th	H	T	O
	6	5	8	6	5
+	2	6	0	2	6
	9	1	8	9	1

Add :-

(1) 56,784 and 48,765

(2) 27,835 and 308

(3) 20,312 and 5040 and 809

(4) 6221 and 563 and 51,738

(5) 53,817 and 37,405

Subtraction of numerals with 5 digits

See and understand

Example 1 :

	Tth	Th	H	T	O
	6	8	9	3	5
–	4	7	8	1	4
	2	1	1	2	1

Example 2 :

	Tth	Th	H	T	O
	3	3	9	1	8
–	1	4	7	0	9
	1	9	2	0	9

Subtract:-

(1) 59,726 from 80,780

(2) 68,349 from 73,405

(3) 4236 from 47,895

(4) 23,562 from 78,354

(5) 31,405 from 53,817

After having solved the above questions you will have realised that the subtraction and addition of a 5 digit number is exactly the same as you would do with a 4 digit, 3 digit or 2 digit number. In fact, the addition and subtraction of numbers with more than five digits is also the same.

See and understand :

Example 1 :

Lakh	Tth	Th	H	T	O
7	5	3	4	2	8
+ 1	4	8	5	6	3
9	0	1	9	9	1

Example 2 :

Ten lakh	Lakh	Tth	Th	H	T	O
7	6	3	5	4	8	7
+ 2	0	8	3	8	0	6
9	7	1	9	2	9	3

Exercise

(1) 2 6 3 7 0 3
+ 7 8 3 9 5

(2) 5 5 0 0 7
+ 1 7 3 8 6 0

(3) 3 7 8 3 5 4 6
+ 6 2 3 5 6 2 7

(4) 9 9 4 2 5 5
+ 5 9 3 5 0 9

(5) 6 0 2 7 6 2 7
+ 9 4 0 0 0
_____

(6) 8 3 8 1 2
+ 9 1 9 4 1 4 1
_____

(7) 6 2 7 3 9 0 4
+ 4 0 6
_____

(8) 3 8 9
+ 8 9 2 3 1 3
_____

Subtraction of six digit or seven digit numerals

See and understand-

Example 1 :
7 8 6 5 3 8
− 2 3 8 7 1 5
5 4 7 8 2 3

Example 2 :
2 4 4 7 8 2 3
− 1 6 3 8 7 1 5
0 8 0 9 1 0 8

Exercise

(1) 7 8 5 0 2 5 2
− 6 2 4 1 0 4 9
_____

(2) 5 1 2 4 2 8 6
− 2 5 2 6 2 1 4
_____

(3) 9 9 2 6 4 6
− 6 9 6 6 2 7
_____

(4) 8 6 8 2 2 3
− 2 2 3 1 0 4
_____

(5) 5 5 9 3 4 7 5
− 5 8 7 5 2
_____

(6) 4 4 6 7 8 9 5
− 5 9 3 2 5 1
_____

(7)
$$\begin{array}{r} 674868 \\ -\ 26789 \\ \hline \\ \hline \end{array}$$

(8)
$$\begin{array}{r} 252457 \\ -\ 9509 \\ \hline \\ \hline \end{array}$$

Now make numerals with 5 digits. Take them in groups of two and add them. Also from each group subtract the smaller numeral from the larger.

Similarly make numerals with 3 digits. Take them in groups of two and add them. Get them checked by your teacher.

Ask your friends and find out who made the maximum number of questions.

Very nice!

After solving the questions you must be eager to know whether your solutions are correct. Here we will tell you how you can check your solution. Let us understand the method.

25308 +76397 101705	Total is 101705 Subtract 25308 from this	101705 –25308 76397

Here we can say our answer is correct if we subtract from the total any one of the given numbers, we should get the other.

Now check your answer by this method.

Statement sums

(1) One businessman deposited Rs. 13,71,802 in his account in the first year and Rs. 12,18,625 in the second year. What is the total amount in his account in the two years?

(2) Find the sum of the largest 6 digit number and the smallest 7 digit number.

(3) The population of one town is 6,52,561 and that of another town is 7,11,332. What is the total population of the two towns?

(4) In a state there are 4,32,795 children studying in primary schools; 2,99,890 children in middle schools and 2,09,372 children in (secondary) schools. So how many total children are studying in this state?

(5) The town has total population of 4,53,572 women and men, If 2,25,780 of them are men, what is the number of women?

(6) The sum of two numbers is 2,30,560. If one of the number is 92,640, then what in the other number?

(7) There are 3 candidates standing for election. The first candidate got 2,88,562 and the second candidate got 1,91,072 votes. If a total of 8,15,624 votes were cast, what number of votes did the third candidate get?

(8) Ravi bought a house for Rs 6,80,000 and Rakesh bought another house for Rs. 5,50,000. What is the total cost of the two houses?

(9) Find the difference between the smallest 4 digit number and the largest 3 digit number.

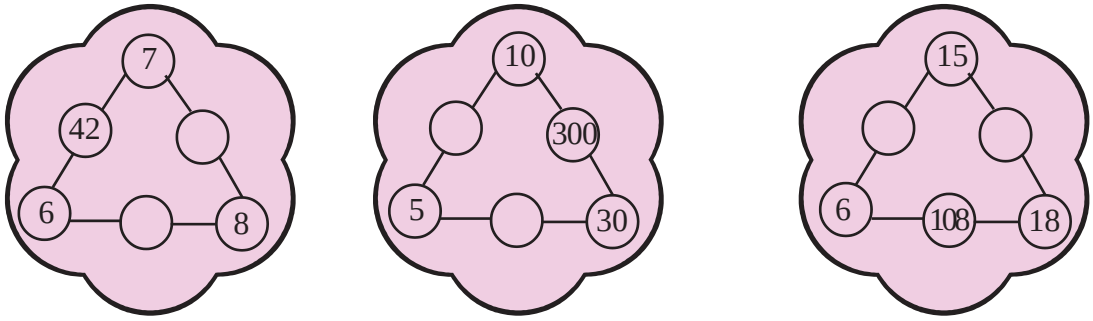
(10) By subtracting 1 from the smallest 6 digit number, which number would you get? How many digits would it be?

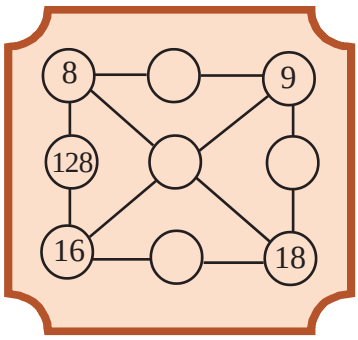
(11) Write two numbers whose sum is 9876.

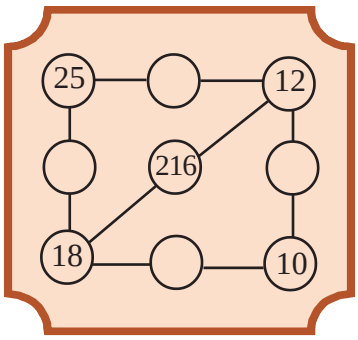
(12) Write two 5 digit numbers whose sum is 89,854.

Multiplication

Observe, understand and complete the following-







Make some similar questions and give them to your friends to solve.

Let us do and learn-

You have already learnt the method of multiplying a two digit number with another two digit number.

The examples given below will make it clear how you can multiply a three digit number with a two digit number.

Example 1 : 463 x 58 = ?

Solution :

$$\begin{array}{r} 463 \\ \times\ 58 \\ \hline 3704 \\ +23150 \\ \hline 26854 \\ \hline \end{array}$$

$$\begin{aligned} & 463 \times 58 \\ = & \ 463 \times (50+8) \\ & 463 \times 8 = 3704 \\ & 463 \times 50 = 23150 \\ & \qquad\qquad 26854 \end{aligned}$$

Example 2 : 645 × 273 = ?

Solution :

$$\begin{array}{r} 645 \\ \times\ 273 \\ \hline 1935 \\ +45150 \\ 129000 \\ \hline 176085 \\ \hline \end{array}$$

$$\begin{aligned} & 645 \times 273 \\ = & \ 645 \times (200+70+3) \\ & 645 \times 3 = 1935 \\ & 645 \times 70 = 45150 \\ & 645 \times 200 = 129000 \\ & \qquad\qquad 176085 \end{aligned}$$

Now try these :

(1) 735×27 (2) 665×51

(3) 513×236 (4) 640×70

(5) 867×458 (6) 888×222

(7) 306×204 (8) 6438×30

(9) 2284×746

Make some similar questions on your own and show the solutions to your teacher.

Statement sums

1. A cooler costs Rs. 4350. If a hostel purchases 15 coolers, what would the total cost of the coolers?
2. A cycle costs Rs. 1975. If there are 217 girls in a high school and each child is given one cycle. Find the total amount required for purchasing the cycles.
3. 4635 meter cloth is made in a factory in one day. What is the total length of cloth produced in the month of January?
4. A godown has 8734 sacks of grain. If each sack contains 75 kg. of grain, What is the total quantity of the grain in the godown?
5. Mohan saves Rs. 750 each month in his savings account. What amount would he save in 5 years?

Division

You have already learnt how to divide a three digit number by a one digit or a two digit number. Let us see some questions of this type:-

(1) $365 \div 5$ (2) $816 \div 8$

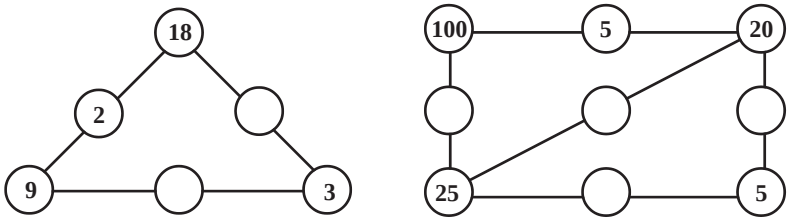
(3) $978 \div 7$ (4) $735 \div 13$

(5) $625 \div 12$ (6) $432 \div 15$

(7) $999 \div 11$ (8) $384 \div 9$

(9) $589 \div 19$

Observe, understand and complete the following :-



Checking your answer

Now we will let you know the method of checking your answer.

Look at the following example and understand:-

978 ÷ 7 = ?

Solution :

$$
\begin{array}{r}
139 \\
7\overline{)\,978} \\
-\,7 \\
\hline
27 \\
-\,21 \\
\hline
\times 68 \\
-\,63 \\
\hline
\times 5
\end{array}
$$

you know that in the given question

Dividend = 978 Divisor = 7

Quotient = 139 Remainder = 5

Dividend = (Quotient × Divisor) + Remainder

= 139 × 7 + 5

= 973 + 5

= 978

which is the given dividend hence we can say that our solution is correct.

Now you know that

If Quotient × Divisor + Remainder = Dividend
then our solution is correct.

You can check your earlier solutions and see whether they were correct or not.

Division of a four digit and five digit number

You have seen earlier that addition, subtraction and multiplication for a five digit number is same as that for a two, three or four digit number.

Example 1:

$$\begin{array}{r} 264 \\ 27\overline{)\,7128} \\ -\,54 \\ \hline 172 \\ -\,162 \\ \hline 108 \\ -\,108 \\ \hline 000 \end{array}$$

Quotient = 264

Remainder = 0

Example 2:

$$\begin{array}{r} 1611 \\ 58\overline{)\,93456} \\ -\,58 \\ \hline 354 \\ -\,348 \\ \hline 65 \\ -\,58 \\ \hline 76 \\ -\,58 \\ \hline 18 \end{array}$$

Quotient = 1611

Remainder = 18

Before doing the division if you write the table of the divisor it will be easy for you to do the division.

Now find the solution of the given questions and check your answers:-

(1) $6531 \div 82$ (2) $23671 \div 47$

(3) $4035 \div 24$ (4) $35152 \div 32$

(5) $71839 \div 113$ (6) $55679 \div 36$

Make some more questions, solve them and show them to your teacher.

Statement Sums

1. The daily wages of 25 labours is Rs. 1750. So what is the daily wage of each labour?
2. On dividing 21,500 by a certain number we get 125 as the quotient. find the divisor?
3. The product of two numbers is 1,15,625. If one of the numbers is 125, find the other?
4. The total cost of 35 mobile sets is Rs. 37,825, then what is the cost of each mobile?

5. If the divisor is 48, the quotient is 403 and the remainder is 5, find the dividend.

6. Do this:

Division method of more than 5 digit numbers is same as the division of 5 digit numbers.

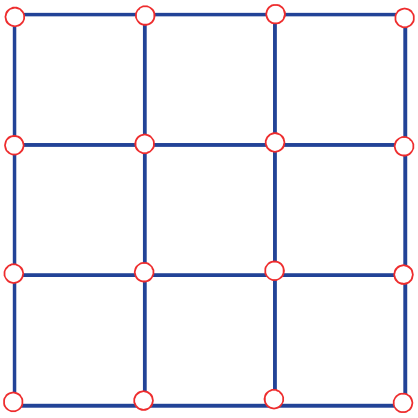
So make some questions with more than five digits and find their solutions.

Find out who amongst your friends solved the maximum number of questions.

Now for some fun!

1. The given figure has 9 equal squares made with matchsticks.

Now remove only four matchsticks in such a way that you are left with five equal squares.



Make this figure using matchsticks and then

a) Remove four matchsticks

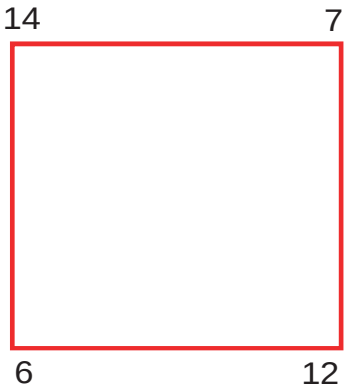
Such that you are left with seven equal squares

b) Remove two matchsticks

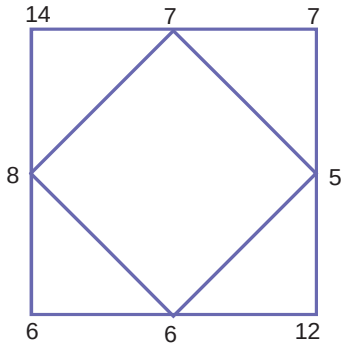
Such that you are left with seven equal squares.

2. Do this also -

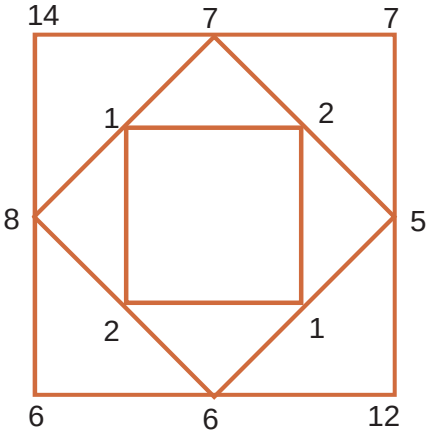
Step 1 : Make a square and write the numbers 14, 12, 6 and 7 at its edges.



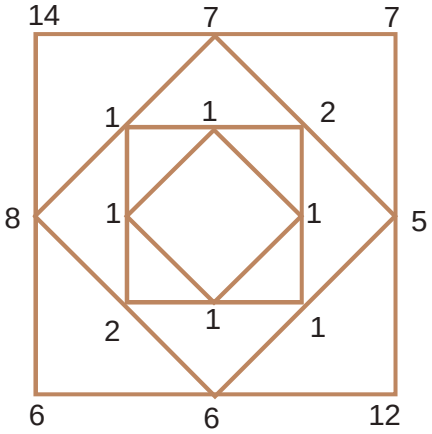
Setp 2 : Join the mid points of this square to get another square. Write the difference of the numbers of the earlier square at the edges of the second square.



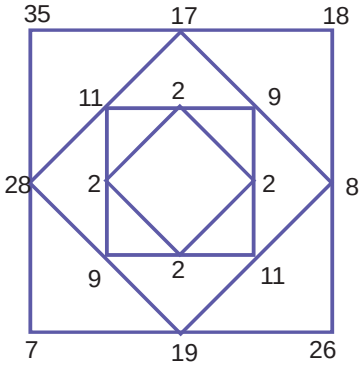
Step 3 : Repeat what you did in step 2 to get 3rd square in the centre.



Step 4 : Repeat the same procedure to get 4th square, you will observe that you will get the same number at the edges of the fourth square. This is the last square.



Below given one figure. Observe it and try to understand.



Note :- *While solving this type of squares the numbers of steps may be increased or decreased.*

Now you can also make such squares on your own.

3. Given below are some magic squares. Fill the blank boxes with the correct digits as per the instructions given below.

		7
10		
		9

Total is 18

	13	
10		14

Total is 33

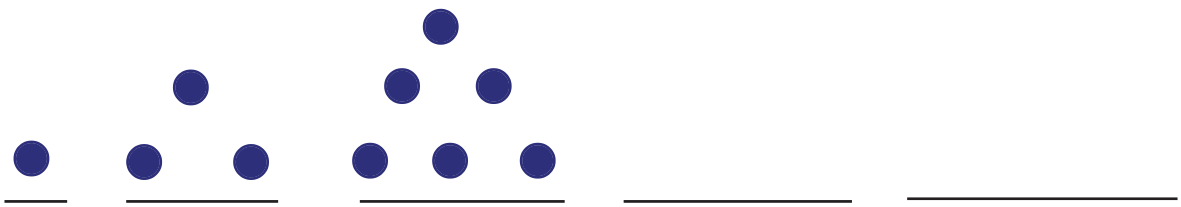
22		
		21
		28

Total is 75

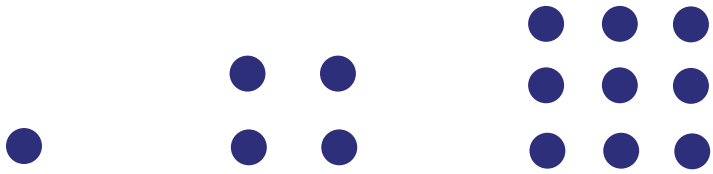
While solving the magic square see that the sum total of each line, each column and each diagonals is same.

4. Look at the given pictures carefully.

Make at least two more pictures by moving this sequence forword.



The numbers taken in this order makes a long series. These numbers are called triangular numbers because points taken equal to these numbers make triangular figure.



Numbers taken in this order makes a long series. These numbers are called square numbers because points taken equal to these numbers make square figure.

5. Understand the given pattern and write at least three more terms in the given sequence:

1) 1, 1+2, 1+2+3, ___ ____ ____

2) 3, 7, 11, ___ ____ ____

3) 1, 4, 9, 16, ____ ____

4) 1 2 4 ____ _____ ____

5) 3 9 27 ____ _____ ____

6. Some questions are given below. Understand them and answer carefully:

1. One child can see upto a distance of three kilometers, then how far 6 children can see?
2. Three children plucked 20 mangoes, so how many total mangoes did they pluck together ?
3. There were 20 birds sitting on a tree. A hunter fired a shot at a bird but missed, now how many birds are left on the tree?

Have you been able to answer these questions correctly?

Make some more questions of your own and ask your friends to solve them.