PREFACE

Precise Mathematics is a series of text books specially prepared to meet the requirements of Primary School pupils as per the latest Mathematics curriculum prescribed by the Council for the ISC Examinations, New Delhi.

This series has adopted a learner-centred and lively approach to the teaching of Mathematics. All basic concepts have been clearly explained with the help of examples to lay a strong foundation for the subject. Numerous illustrations are given in each chapter to enhance the pupils' understanding of the Mathematical concepts. Stimulating questions and fun activities of the lessons challenge the pupils to think critically and creatively. The series endeavours to nurture the mathematical thinking and systematic reasoning of pupils and to arouse a child's interest and curiosity in the subject.

'Precise Mathematics' is a departure from conventional text books in as much as it attempts to develop in the student a fondness for the subject through a refreshing style of presentation of the fundamental concepts and their applications.

This is a text-cum-workbook. It will help the child to master Mathematical skills through continuous practice. It encourages the students to learn rather than to be taught; to think; to reason and to use simple mathematical language and symbols; and to understand, with the aid of extensive illustrations, the relationship that exists between the subject and everyday life.

We are grateful to Mr. Y. Upadhyaya, Ingraham Institute Ghaziabad, Mr. Anil Kumar, St. Mary's School Ghaziabad and Ms. Sweta Upadhayaya for their inputs and suggestions for the preparation of this series.

Feedback from teachers for the further improvement of this series will be highly appreciated.

Editor

CONTENTS

1 Revison

Exercise

A. Write the following numbers in words.

1. 87 = Eighty seven
2. 45 = _____
3. 327 = _____
4. 408 = _____
5. 176 = _____
6. 628 = _____
7. 869 = _____
8. 523 = _____
9. 771 = _____
10. 351 = _____

B. Write the following numbers in figures.

1. Ninety five — 95
2. Two hundred twenty four
3. Seven hundred four
4. Five hundred fifty seven
5. Four hundred twenty two
6. Eight hundred five
7. Nine hundred ninety nine

8 Sixty three

9 Six hundred three

10 One hundred ninety two

C. Write the numbers that come 'just before' and 'just after' the following numbers.

1	515	516	517	2		459	
3		700		4		30	
5		946		6		399	
7		41		8		445	
9		924		10		251	

D. Write the numbers given below in expanded form.

1	417	=	4	hundreds	1	ten	7	ones
2	243	=		hundreds		tens		ones
3	28	=		hundreds		tens		ones
4	583	=		hundreds		tens		ones
5	607	=		hundreds		tens		ones
6	740	=		hundreds		tens		ones
7	800	=		hundreds		tens		ones
8	92	=		hundreds		tens		ones
9	122	=		hundred		tens		ones
10	901	=		hundreds		tens		one

E. Write the following numbers in expanded form.

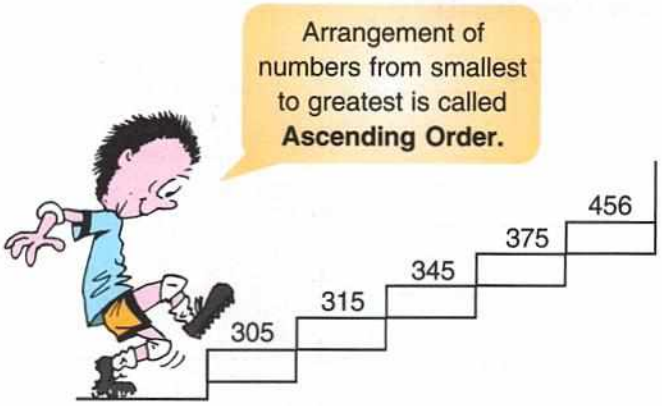
1	472	=	400	+	70	+	2
2	617	=		+		+	
3	8	=		+		+	
4	567	=		+		+	
5	992	=		+		+	
6	300	=		+		+	
7	740	=		+		+	
8	155	=		+		+	
9	275	=		+		+	
10	854	=		+		+	

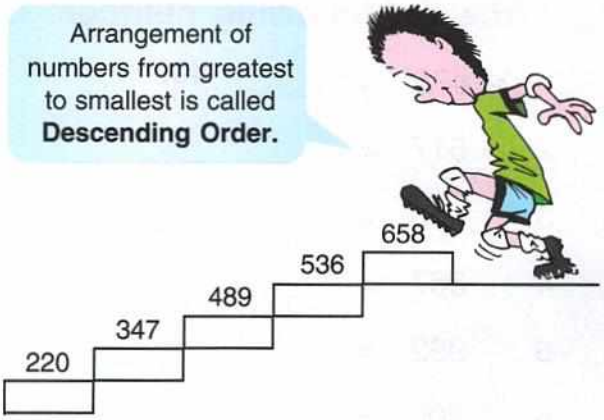
F. Write the following numbers in short form.

1	900 + 30 + 7	937	2	800 + 70 + 2	
3	200 + 40 + 3		4	400 + 70 + 3	
5	300 + 20 + 6		6	00 + 00 + 9	
7	500 + 5		8	200 + 20 + 2	
9	700 + 80		10	100 + 90 + 8	

G. Put the correct sign '>', '<' or '=' in the box.

1	78	<	95	2	312		312
3	71		128	4	423		615
5	738		387	6	699		700
7	584		582	8	981		199
9	274		472	10	530		305





H. Rewrite the following in ascending order.

1	728,	827,	278			
2	480,	408,	508			
3	718,	187,	876			
4	864,	701,	400			
5	403,	230,	300			
6	421,	124,	241			
7	379,	937,	793			
8	269,	962,	629			

I. Rewrite the following in descending order.

1	680,	686,	866			
2	408,	840,	808			
3	666,	606,	66			
4	118,	810,	80			
5	571,	751,	517			
6	732,	273,	332			
7	512,	215,	522			
8	910,	109,	91			

J. Complete the number pattern.

1 771, 772, 773

2 190, 193, 196

3 625, 630, 635

4 870, 874, 878

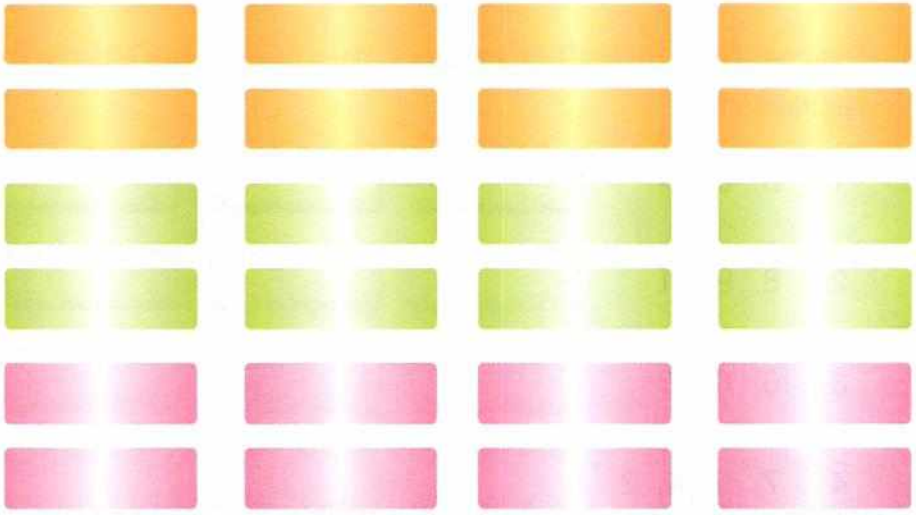
5 500, 507, 514

K. Write in the counts of 5.

1 785 to 820

2 950 to 985

3 180 to 215

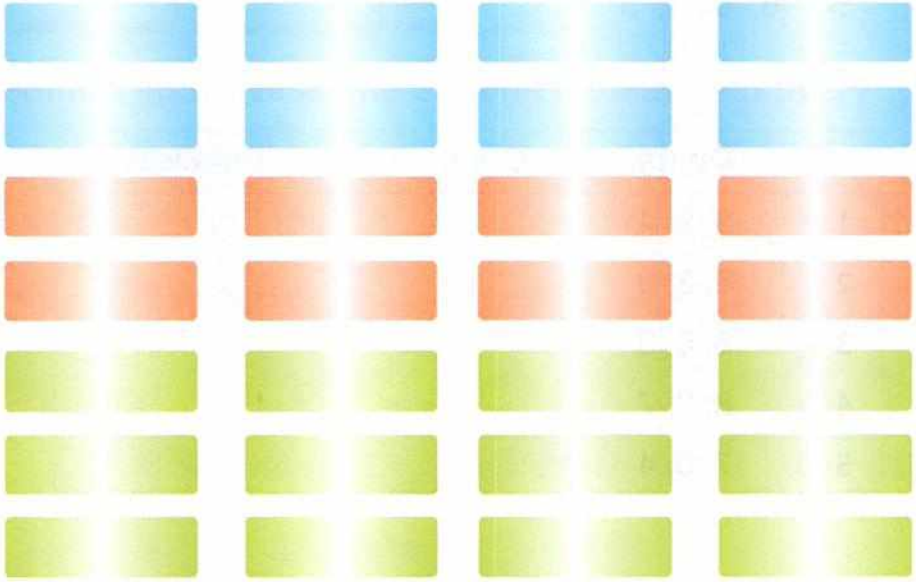


L. Write in the counts of 10.

1 440 to 510

2 880 to 950

3 270 to 380



M. Write in the counts of 100.

1 600 to 1,300

2 200 to 900

3 100 to 800

N. Frame five 3-digit numbers by using the following digits with or without repetition.

1 6, 6, 4

2 8, 9, 1

3 6, 0, 5

4 7, 5, 4, 2

5 6, 0, 1, 5

O. Form the greatest and the smallest 3 digit numbers from the given digits.

	Digits	Greatest	Smallest
1	8, 9, 4		
2	8, 3, 0		
3	5, 6, 3		
4	8, 2, 7		
5	7, 0, 4		

2 Numbers

Revision

We have learnt that :

- The numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are called one-digit numbers or simply **digits**.
- The biggest one digit number is 9 and the smallest one-digit number is 0.
- The smallest two digit number is 10.
- The biggest two digit number is 99.
- The smallest three digit number is 100.
- The biggest three digit number is 999.

Note the following facts :

- The smallest 2-digit number is obtained by adding 1 to the largest 1-digit number.

$$9 + 1 = 10$$

- The smallest 3-digit number is obtained by adding 1 to the largest 2-digit number.

$$99 + 1 = 100$$

- Similarly, the smallest 4-digit number is obtained by adding 1 to the largest 3-digit number.

$$999 + 1 = 1000$$

- 1000 is read as **'one thousand'**.
- The highest 1-digit number is obtained by subtracting 1 from the smallest 2-digit number.

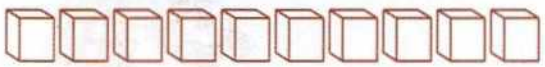
$$10 - 1 = 9$$

- Similarly, the highest 2-digit and 3-digit numbers are obtained by subtracting 1 from the smallest 3-digit and 4-digit numbers respectively.

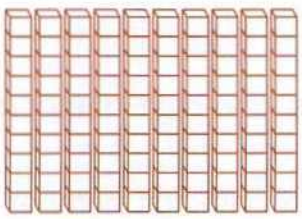
$100 - 1 = 99$ and $1000 - 1 = 999$

Four Digit Numbers

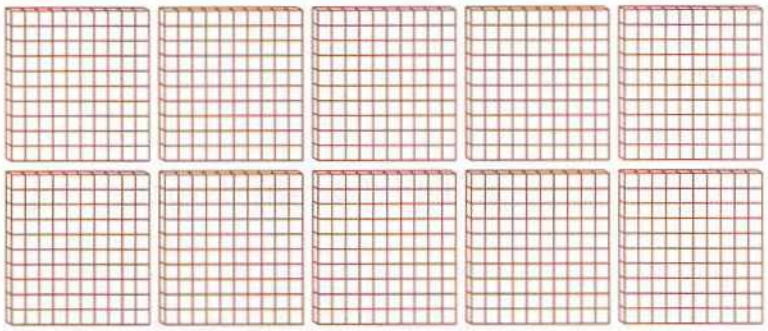
To write a four digit number we need four places. These places are called thousands place (Th), Hundreds place (H), Tens place (T) and Ones place (O).



10 ones = 1 ten



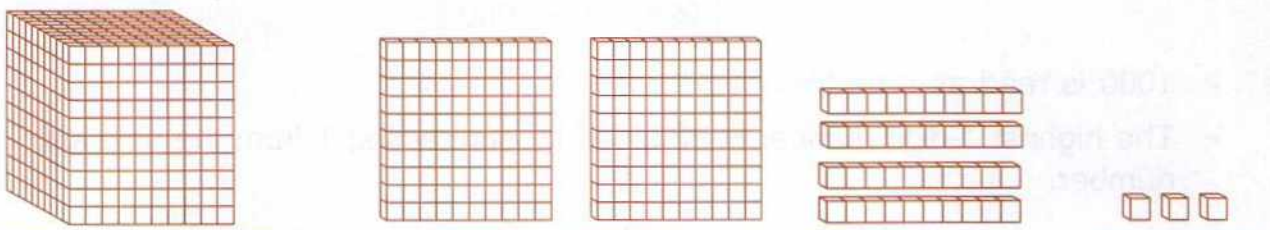
10 tens = 1 hundred



10 hundreds = 1 thousand

Counting in Thousands

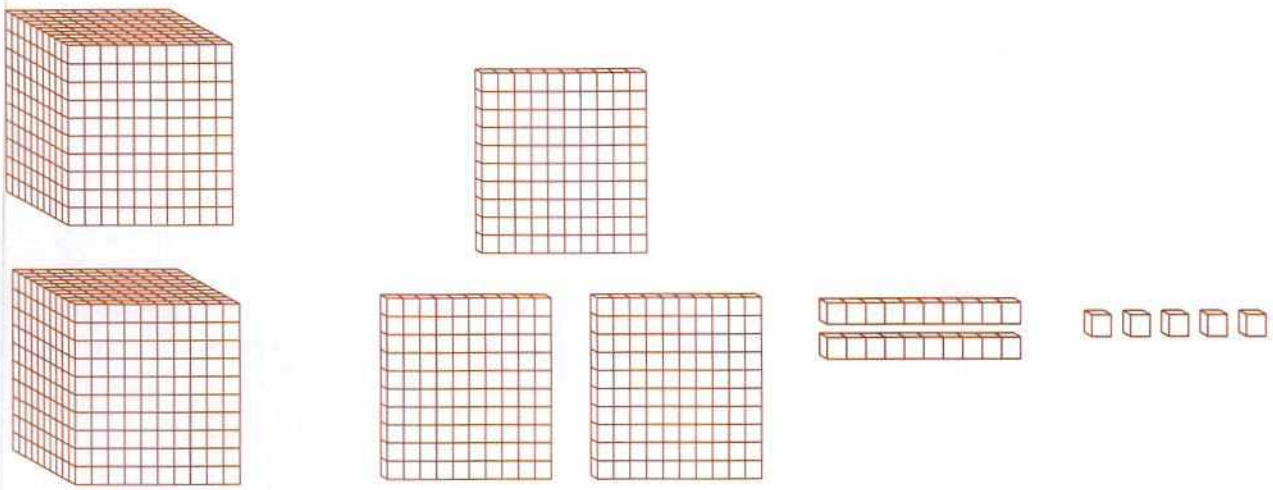
(a)



1 thousand + 2 hundreds + 4 tens + 3 ones

Th	H	T	O
1	2	4	3

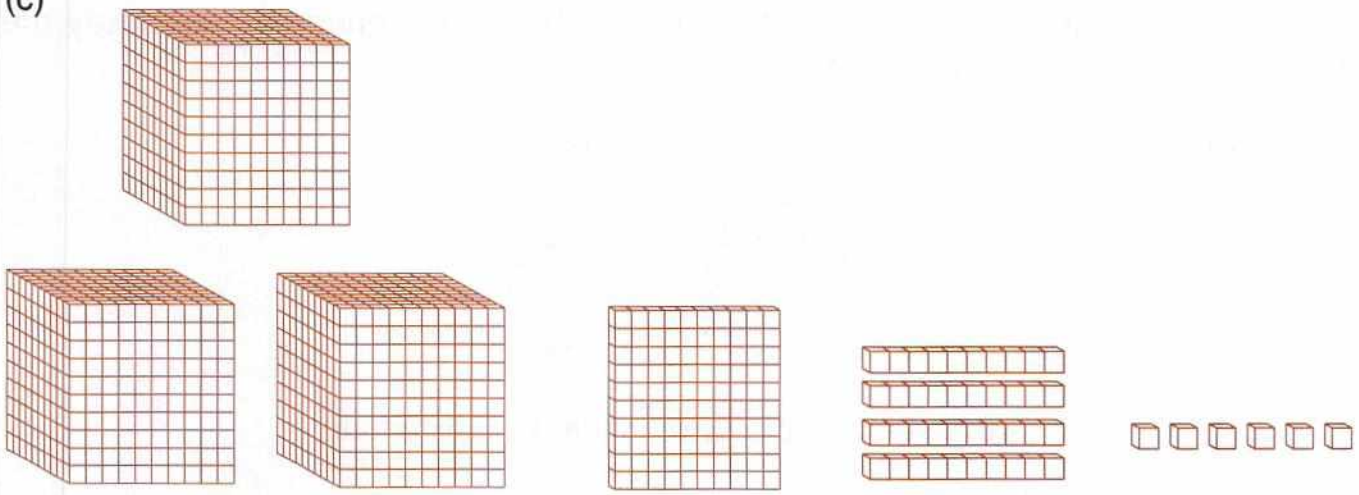
(b)



2 thousands + **3 hundreds** + **2 tens** + **5 ones**

Th	H	T	O
2	3	2	5

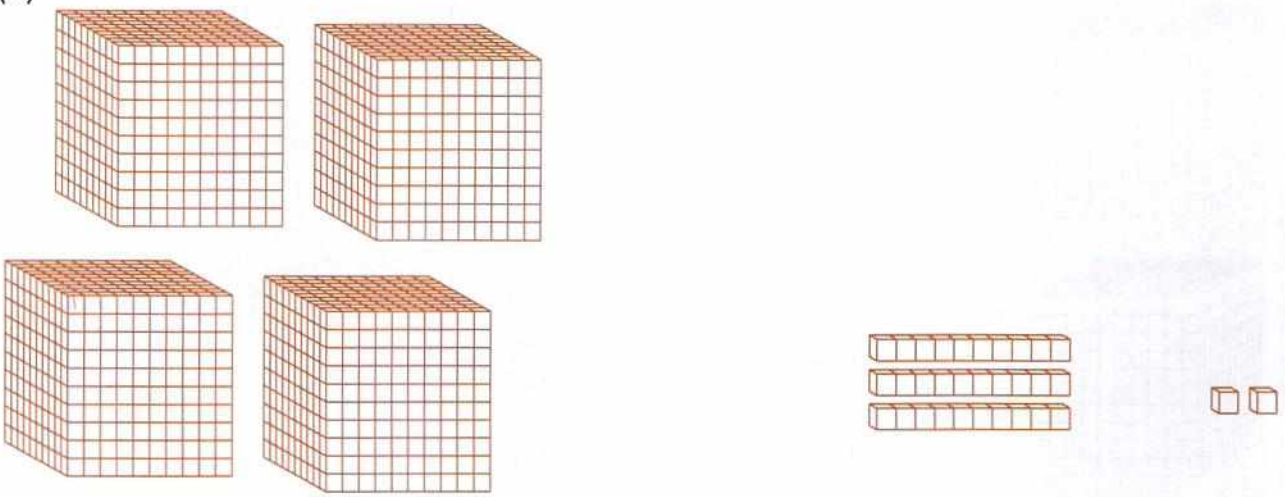
(c)



3 thousands + **1 hundred** + **4 tens** + **6 ones**

Th	H	T	O
3	1	4	6

(d)



4 thousands + **0 hundreds** + **3 tens** + **2 ones**

Th	H	T	O
4	0	3	2

Reading four digit numbers

To read a four digit number, first read thousands, then hundreds and lastly the number formed by tens and ones.

Example 1 Read 3 2 6 4 and write it in words.

Th	H	T	O
3	2	6	4

Three thousand | two hundred | sixty four

Example 2 Read 4 0 3 6 and write it in words.

Th	H	T	O
4	0	3	6

Four thousand | thirty six

Since there are zero hundreds, we skip reading hundreds.

Example 3 Read 5 7 0 4 and write it in words.

Th	H	T	O
5	7	0	4

Five thousand — seven hundred — four

Since there are zero tens, we only read the digit at the ones place.

Exercise 2(A)

A. Write the number names for the numerals given below.

1 4786 = **Four thousand seven hundred eighty six**

2 2635 = _____

3 5457 = _____

4 9216 = _____

5 6852 = _____

6 5180 = _____

7 2504 = _____

8 7053 = _____

9 4084 = _____

10 2005 = _____

B. Write the numerals for the following number names.

1 Two thousand seven hundred fifty seven. **2757**

2 Six thousand two hundred sixty seven.

3 Four thousand five hundred sixty nine.

4 Nine thousand six hundred thirty two.

5 Seven thousand eighty six.

6 Three thousand seventy three.

7 Five thousand forty seven.

8 Eight thousand eight hundred eight.

9 One thousand two.

10 Six thousand six.

C. Write the missing numbers.

1 1122, 1123, **1124**, **1125**, 1126, **1127**, **1128**, **1129**, 1130

2 2517, _____, _____, _____, 2521, _____, _____, _____, 2525

3 4346, _____, _____, 4349, _____, 4351, _____, _____, _____

4 6034, _____, _____, 6037, _____, _____, _____, _____, 6042

5 9807, _____, _____, _____, 9811, _____, _____, _____, 9815

6 3765, _____, _____, _____, 3769, _____, _____, 3772, _____

7 5285, _____, _____, 5288, _____, _____, 5291, _____, _____

8 8538, _____, _____, _____, 8542, _____, _____, 8545, _____

D. Counting in fives, write the next four numbers.

1 1433, 1438, 1443, _____, _____, _____, _____

2 2484, 2489, 2494, _____, _____, _____, _____

3 5820, 5825, 5830, _____, _____, _____, _____

4 8639, 8644, 8649, _____, _____, _____, _____

5 6243, 6248, 6253, _____, _____, _____, _____

E. Counting in tens, write the next four numbers.

1 7658, 7668, 7778, _____, _____, _____, _____

2 6935, 6945, 6955, _____, _____, _____, _____

3 4583, 4593, 4603, _____, _____, _____, _____

4 2368, 2378, 2388, _____, _____, _____, _____

5 5535, 5545, 5555, _____, _____, _____, _____

F. Counting in hundreds, write the next four numbers.

1 5378, 5478, 5578, _____, _____, _____, _____

2 2192, 2292, 2392, _____, _____, _____, _____

3 7080, 7180, 7280, _____, _____, _____, _____

4 4634, 4734, 4834, _____, _____, _____, _____

5 9274, 9374, 9474, _____, _____, _____, _____

G. Counting in thousands, write the next four numbers.

1 1546, 2546, 3546, _____, _____, _____, _____

2 2308, 3308, 4308, _____, _____, _____, _____

3 2963, 3963, 4963, _____, _____, _____, _____

4 3692, 4692, 5692, _____, _____, _____, _____

5 2990, 3990, 4990, _____, _____, _____, _____

Successor and Predecessor

The number that comes just after a given number is called the **successor** of the given number. For example 28 comes just after 27. So 28 is the successor of 27.

Example 1

1. The sucessor of 271 is 272.
2. The sucessor of 7643 is 7644.

The number that comes just before a given number is called the **predecessor** of the given number. For example 36 comes just before 37. So the predecessor of 37 is 36.

Example 2

1. The predecessor of 876 is 875.
2. The predecessor of 5414 is 5413.

Exercise 2(B)

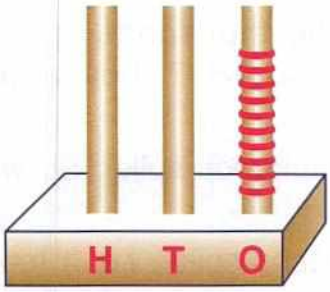
A. Write the successors of the following numbers.

1	1473	1474	2	2475	
3	3624		4	5317	
5	4678		6	7549	
7	2599		8	3509	
9	4839		10	7299	
11	2079		12	5415	
13	5599		14	9709	

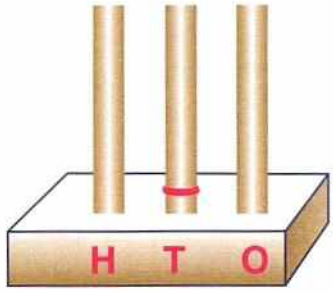
B. Write the predecessors of the following numbers.

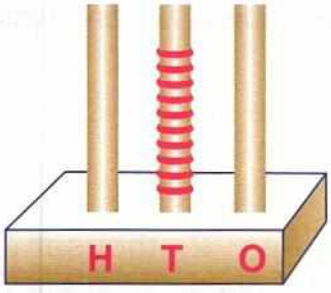
1	2425	2426	2		3578
3		6526	4		1464
5		4340	6		7860
7		2300	8		4601
9		5800	10		3000
11		4510	12		5015
13		7870	14		9000

Numbers Using Abacus

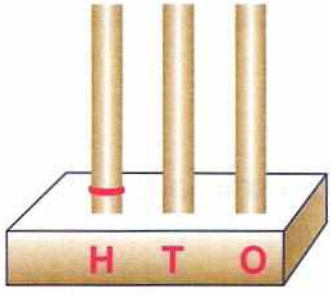


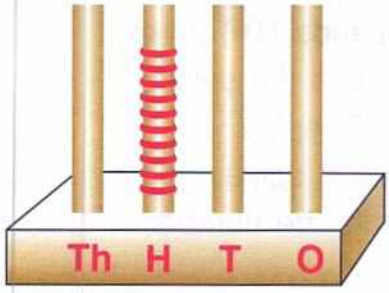
10 Ones = 1 Ten



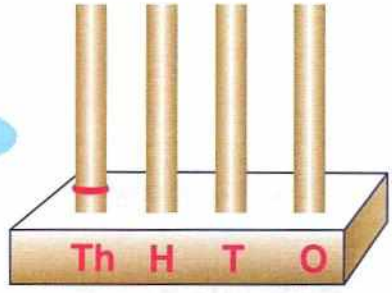


10 Tens = 1 Hundred

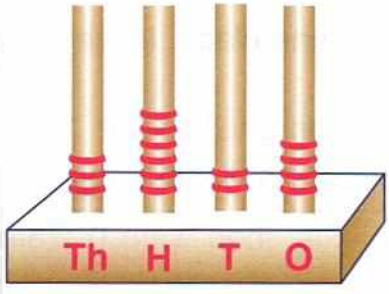




10 Hundreds = 1 Thousand



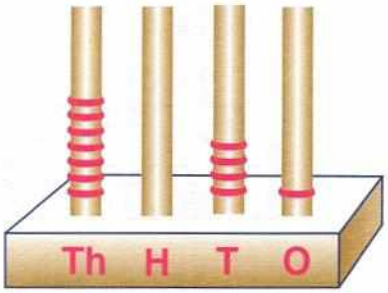
Example 1 Write the number shown on the abacus.



- There are 3 rings in the thousands spike, which shows 3 thousands = 3000.
- There are 6 rings in the hundreds spike, which shows 6 hundreds = 600.
- There are 2 rings in the tens spike, *i.e.* 2 tens which shows 2 tens = 20.
- There are 4 rings in the ones spike, which shows 4 ones = 4.

Thus, the number shown on the abacus is **3624**.

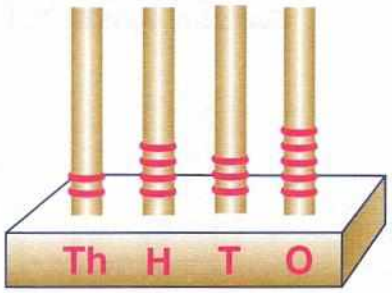
Example 2 Write the number shown on the abacus.



- There are 7 rings in the thousands spike, *i.e.* 7 thousands which shows 7 thousands = 7000.
- There is nothing in the hundreds spike. So we have 0 hundreds = 0.
- There are 4 rings in the tens spike, *i.e.* 4 tens which shows 4 tens = 40.
- There is 1 ring in the ones spike, *i.e.* one which shows 1 one = 1.

Thus, the number shown on the abacus is **7041**.

Example 3 Show the number 2435 on the abacus.

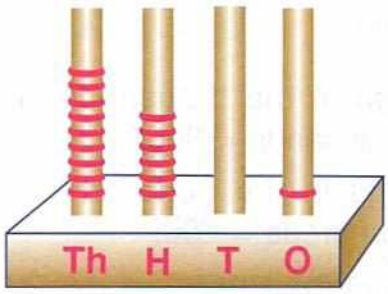


- The number 2435 has 2 thousands, 4 hundreds, 3 tens and 5 ones.
- To show it on the abacus —
  Draw 2 rings on thousands (Th) spike.
  Draw 4 rings on hundreds (H) spike.
  Draw 3 rings on tens (T) spike.
  Draw 5 rings on ones (O) spike.

The abacus now represents the number **2435**.

Example 4 Show the number 9601 on the abacus.

To show 9601 on the abacus —



- Draw 9 rings on thousands spike representing 9 thousands.
- Draw 6 rings on hundreds spike representing 6 hundreds.
- As there is a 0 on tens place, leave the tens spike blank.
- Finally, draw 1 ring on ones spike.

The abacus now represents the number **9601**

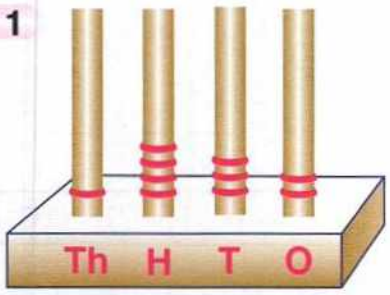
Note : 1. If no ring is drawn on any spike of the abacus, then write 0 (zero) at that place.

2. If there is a 0 (zero) at any place in a number, then leave the spike of that place blank, *i.e.* without drawing any ring.

Exercise 2(C)

A. Write the number shown on each abacus.

1



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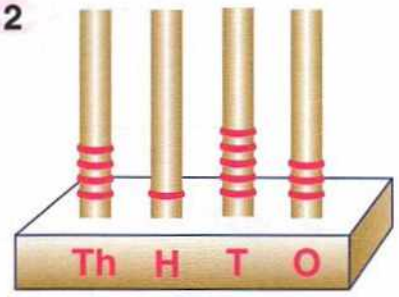

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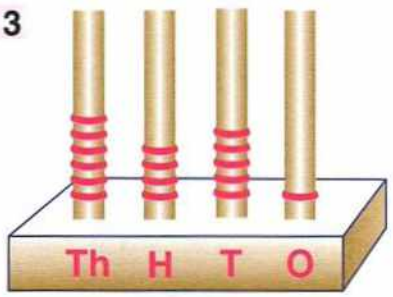

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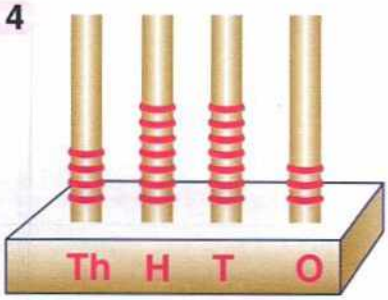

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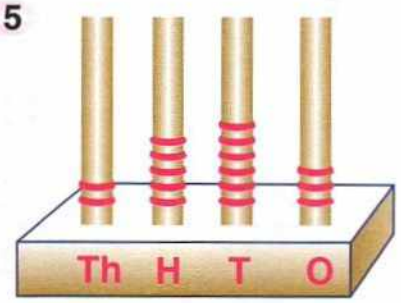

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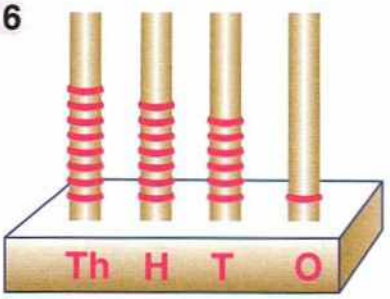

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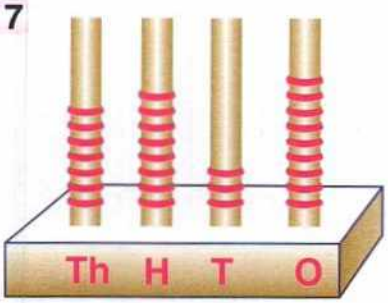

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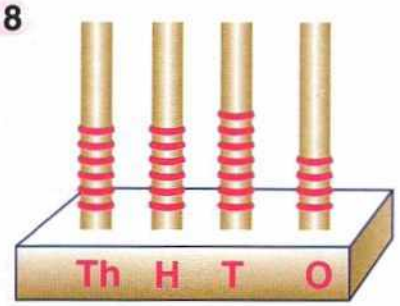

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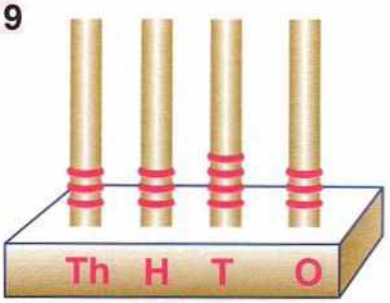

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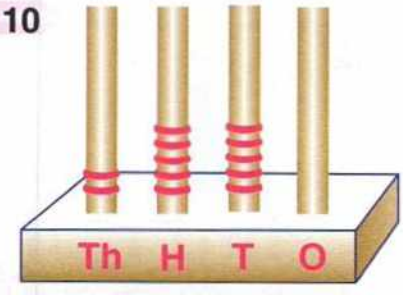
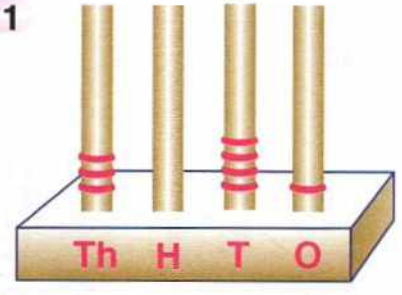


11



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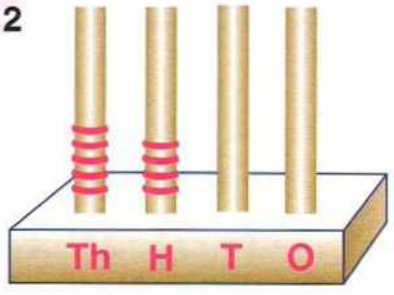
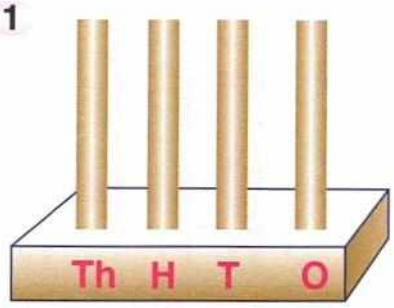


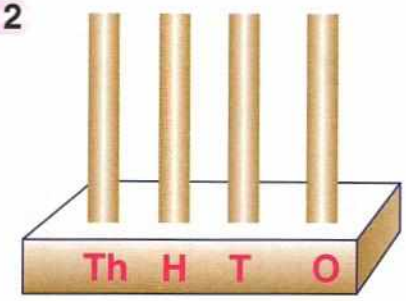
B. Show each of the following numbers on an abacus.

1



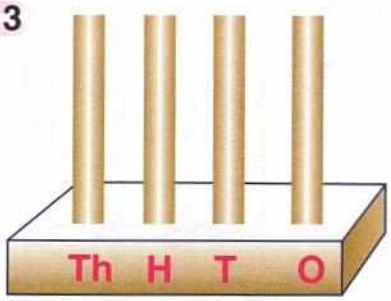
3042

2



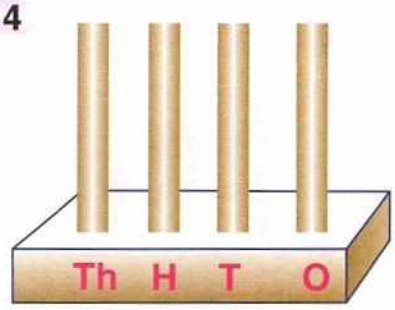
2405

3



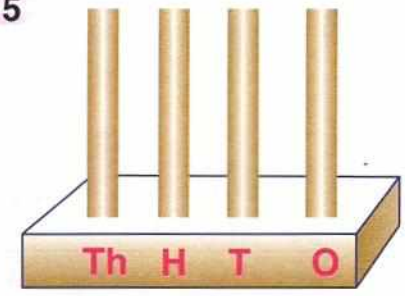
4002

4



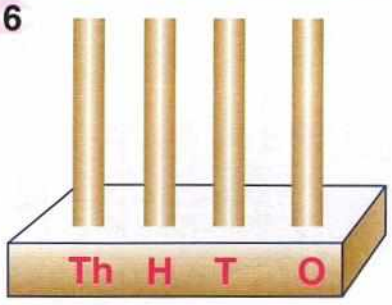
5030

5



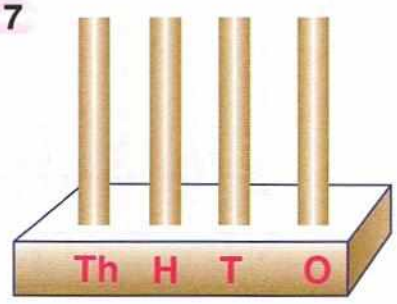
6562

6



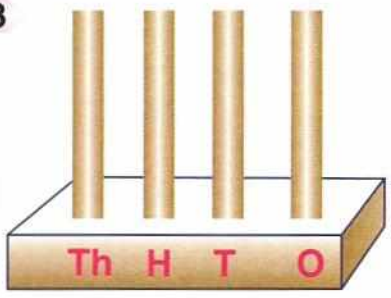
7655

7



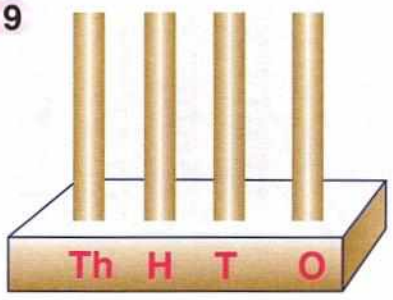
2543

8



5152

9



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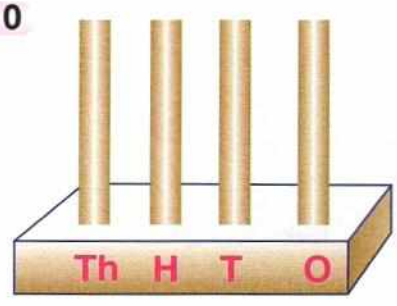
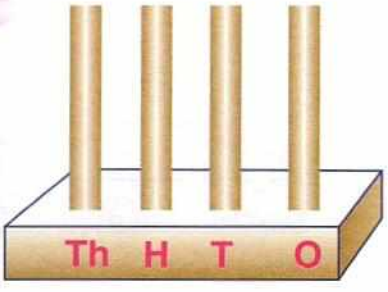


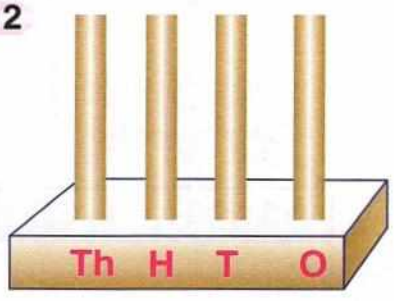
6644

11



9015

12



3005

Place Value

The value that a digit has due to its place or position in a number is called its **place value**.

Case 1				Case 2				Case 3				Case 4			
Th	H	T	O	Th	H	T	O	Th	H	T	O	Th	H	T	O
3	7	4	(5)	2	7	(5)	8	6	(5)	6	7	(5)	6	7	1

In the first case, 5 is at ones place, so its place value is 5 ones or $5 \times 1 = 5$.

In the second case, 5 is at tens place, so its place value is 5 tens or $5 \times 10 = 50$.

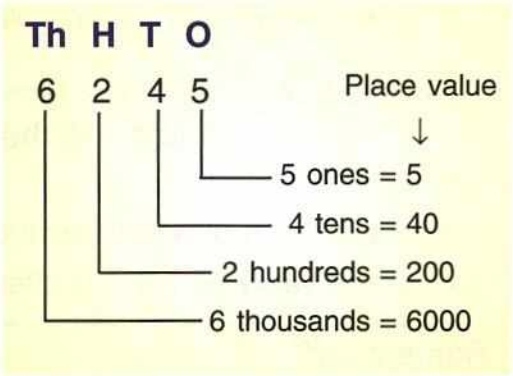
In the third case, 5 is at hundreds place, so its place value is 5 hundreds or $5 \times 100 = 500$.

In the fourth case, 5 is at thousands place, so its place value is 5 thousands or $5 \times 1000 = 5000$.

Example 1 Write the place value of each digit in the number 6245.

Solution :

- The digit 5 is at ones place, so its place value is 5 ones or $5 \times 1 = 5$.
- The digit 4 is at tens place, so its place value is 4 tens or $4 \times 10 = 40$.
- The digit 2 is at hundreds place, so its place value is 2 hundreds or $2 \times 100 = 200$.
- The digit 6 is at thousands place, so its place value is 6 thousands or $6 \times 1000 = 6000$.

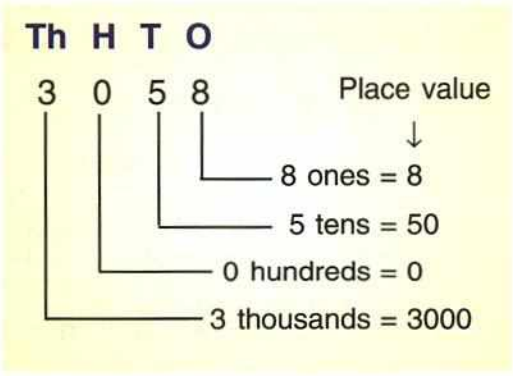


Remember : Place value of the digit 0 (zero) is always 0 (zero), it does not depend on its place or position.

Example 2 Write the place value of each digit in the number 3058.

Solution :

- The place value of 8 is 8. (8×1)
- The place value of 5 is 50. (5×10)
- The place value of 0 is 0. (0×100)
- The place value of 3 is 3000. (3×1000)



Face Value

Face value of a digit is the digit itself. It does not change with the place or position of the digit.

Case 1				Case 2			
Th	H	T	O	Th	H	T	O
9	(6)	3	1	2	7	5	(6)

The face value of the digit 6 in both the cases will remain 6 irrespective of whether it is in hundreds or ones place.

Similarly, the face value of 3 in tens place (case 1) is 3 and that of 7 in hundreds place (case 2) is 7.

Example 1 Write the face value and place value of the digits 3 and 5 in the number 4358.

Solution :

- Face value of 3 in hundreds place is 3 and its place value is $3 \times 100 = 300$.
- Face value of 5 in tens place is 5 and its place value is $5 \times 10 = 50$.

Example 2 Write the face value and place value of the digits 8 and 7 in the number 8765.

Solution :

- Face value of 8 in thousands place is 8 and its place value is $8 \times 1000 = 8000$.
- Face value of 7 in hundreds place is 7 and its place value is $7 \times 100 = 700$.

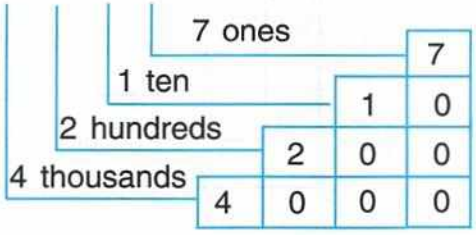
Remember :

1. Face value of a digit does not depend on the place of the digit, whereas place value changes according to the digit's place.
2. The face value as well as place value of zero (0) is always 0.

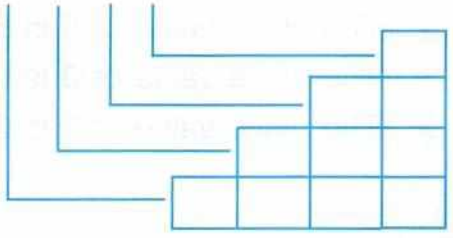
Exercise 2(D)

A. Write the place value of each digit of the given numbers in the boxes.

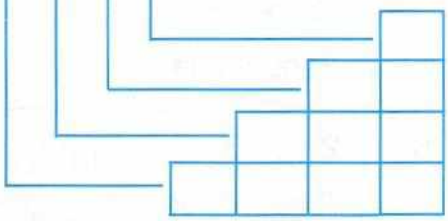
1 4 2 1 7



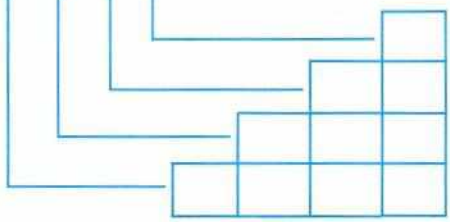
2 8 3 5 7



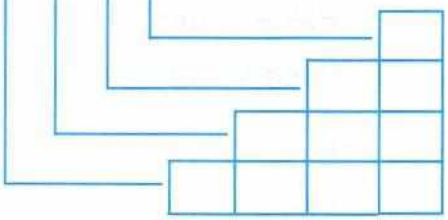
3 9 4 8 1



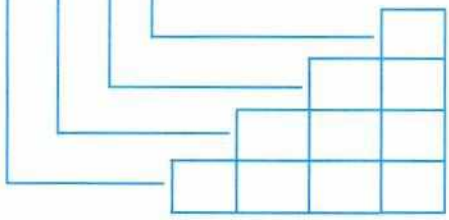
4 6 2 7 5



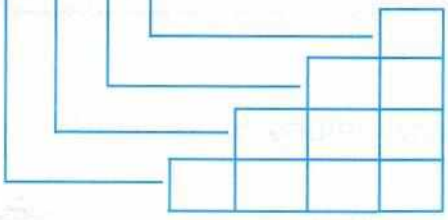
5 3 0 8 7



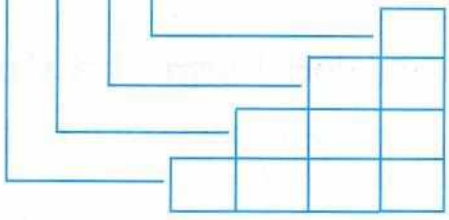
6 7 9 0 6



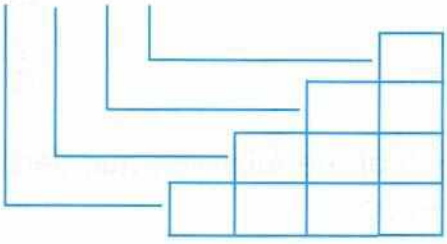
7 4 0 0 8



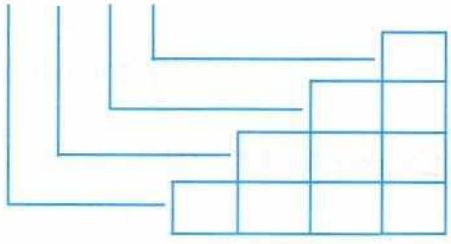
8 5 5 0 5



9 5 3 1 7



10 9 5 1 0



B. Write the place value and the face value of the highlighted digits.

1 8 4 3 6

Place value 8000

Face value 8

2 6 2 8 3

Place value _____

Face value _____

3 7 6 8 4

Place value _____

Face value _____

4 5 3 7 9

Place value _____

Face value _____

5 4 0 4 7

Place value _____

Face value _____

6 2 8 3 4

Place value _____

Face value _____

7 3 6 8 9

Place value _____

Face value _____

8 6 0 0 4

Place value _____

Face value _____

9 8 4 1 7

Place value _____

Face value _____

10 9 6 3 5

Place value _____

Face value _____

Expanded Form and Compact Form

A number expressed as the sum of the place values of its digits is called its expanded form.

$$4572 = \underbrace{4000 + 500 + 70 + 2}$$

↑ Compact form OR Standard form

↑ Expanded form

Example 1 Write the expanded form of each of the following numbers.

(a) 6437 (b) 2047

Solution :

(a) 6437 = 6 thousands + 4 hundreds + 3 tens + 7 ones

= 6000 + 400 + 30 + 7

(b) 2047 = 2 thousands + 0 hundreds + 4 tens + 7 ones

= 2000 + 40 + 7

Note : The place value of 0 hundreds is 0, so it is not mentioned in the expanded form.

Example 2 Write the compact form of each of the following numbers.

(a) 7000 + 400 + 50 + 8 (b) 9000 + 500 + 8

Solution :

(a) 7000 + 400 + 50 + 8 = 7458

(b) 9000 + 500 + 8 = 9508

Note : In the expanded form 9000 + 500 + 8, there are no tens. So at tens place 0 is written.

Exercise 2(E)

A. Write the following numbers in expanded form.

1. 1754 = ____ thousand + ____ hundreds + ____ tens + ____ ones
2. 6868 = ____ thousands + ____ hundreds + ____ tens + ____ ones
3. 2352 = ____ thousands + ____ hundreds + ____ tens + ____ ones
4. 3714 = ____ thousands + ____ hundreds + ____ ten + ____ ones
5. 3588 = ____ thousands + ____ hundreds + ____ tens + ____ ones
6. 5243 = ____ thousands + ____ hundreds + ____ tens + ____ ones
7. 7122 = ____ thousands + ____ hundred + ____ tens + ____ ones
8. 9534 = ____ thousands + ____ hundreds + ____ tens + ____ ones
9. 8517 = ____ thousands + ____ hundreds + ____ ten + ____ ones
10. 4534 = ____ thousands + ____ hundreds + ____ tens + ____ ones

B. Write the following in compact form.

1	7000 + 400 + 50 + 8	7458
2	3000 + 900 + 30 + 5	
3	1000 + 300 + 90 + 2	
4	5000 + 500 + 70 + 9	
5	6000 + 800 + 10 + 3	
6	9000 + 40 + 3	
7	4000 + 300 + 7	
8	8000 + 60 + 1	
9	2000 + 700 + 60	
10	3000 + 20 + 4	

Comparison of Numbers

Comparing numbers means to find out which of the given two numbers is smaller/ greater. The numbers to be compared can have either the same number of digits or different number of digits.

Comparison of numbers with different number of digits

The number with more number of digits is always greater.

Example 1 Compare 2413 and 897.

Here, 2413 has 4 digits and
897 has 3 digits.

So, 2413 is greater than 897

or 2413 > 897

Comparison of numbers with same number of digits

Example 2 Compare 2475 and 6827.

Solution :

Compare the digits at the thousands place.

(2) 4 7 5 and (6) 8 2 7

since, $2 < 6$

$\therefore \quad 2475 < 6829$

Thus, 2475 is less than 6829.

Th	H	T	O
2	4	7	5
6	8	2	9

Example 3 Compare 4674 and 4381.

Solution :

Step 1 : Compare the digits at the thousands place.

(4) 6 7 4 and (4) 3 8 1

The digits are equal ($4 = 4$).

Th	H	T	O
4	6	7	4
4	3	8	1

Step 2 : Now, compare the digits at the hundreds place.

4 (6) 7 4 and 4 (3) 8 1

$6 > 3$

$\therefore \quad 4671 > 4381$

Thus, 4674 is greater than 4381.

Example 4 Compare 7425 and 7432.

Solution :

Step 1 : Compare the digits at the thousands place.

(7) 4 2 5 and (7) 4 3 2

They are equal. ($7 = 7$)

Th	H	T	O
7	4	2	5
7	4	3	2

Step 2 : Now, compare the digits at the hundreds place

7 (4) 2 5 and 7 (4) 3 2

They too are equal. ($4 = 4$)

Step 3 : Next, compare the digits at the tens place

7 4 (2) 5 and 7 4 (3) 2

$2 < 3$

$\therefore$ $7425 < 7432$

So, 7425 is less than 7432.

Example 5 **Compare 5748 and 5743.**

Solution :

Th	H	T	O
5	7	4	8
5	7	4	3

Step 1 : Compare the digits at the thousands place.

(5) 7 4 8 and (5) 7 4 3

They are equal. (5 = 5)

Step 2 : Next, compare the digits at the hundreds place

5 (7) 4 8 and 5 (7) 4 3

They are equal. (7 = 7)

Step 3 : Now, compare the digits at the tens place

5 7 (4) 8 and 5 7 (4) 3

They are also equal. (4 = 4)

Step 4 : Compare the digits at the ones place

5 7 4 (8) and 5 7 4 (3)

$8 > 3$

$\therefore$ $5748 > 5743$

So, 5748 is greater than 5743.

Exercise 2(F)

A. Compare the following numbers and put the correct sign '>', '<' or '=' between the numbers.

1 2785 ☐ 2785

2 7864 ☐ 2439

3 5789 ☐ 4689

4 8477 ☐ 2989

5	5723		5811	6	8042		8131
7	3905		3505	8	4375		4634
9	951		2103	10	6537		6782
11	2958		2939	12	6755		6754

B. Circle the smallest number and underline the greatest number in each row.

1	1471	146	1163	1167	1165
2	1721	1271	1282	1605	1642
3	8735	8543	6354	6345	8549
4	3578	7825	2410	3005	2352
5	6305	6035	6350	5630	5306
6	4625	4526	5246	2564	4265
7	5439	9349	9943	3495	3594
8	3754	3457	7453	5374	3574
9	7503	7501	7563	7580	7502
10	5542	5547	5540	5565	5541
11	3231	3235	3233	3240	3232
12	2951	2944	2940	2939	2950

Arranging Numbers

When numbers are arranged from smallest to greatest, the arrangement is called **ascending order**.

When numbers are arranged from greatest to smallest, the arrangement is called **descending order**.

Ascending

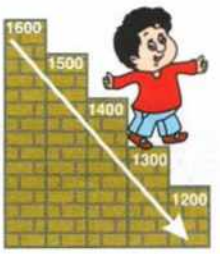
Example 1 Arrange 5876, 923, 7586, 6243, 5846 in ascending order.

Solution :

Since 923 < 5846 < 5876 < 6243 < 7586,

the ascending order of the given numbers is 923, 5846, 5876, 6243, 7586.

Example 2 Arrange 3645, 3564, 534, 5436, 3546 in descending order.



Descending

Solution :

Since 5436 > 3645 > 3564 > 3546 > 534,

the descending order of the given numbers is 5436, 3645, 3564, 3546, 534.

Exercise 2(G)

A. Rewrite the following numbers in the ascending order.

1 4375, 795, 2678, 4346, 2635

2 2635, 4791, 6582, 4763, 2472

3 1056, 5871, 3725, 1003, 3721

4 8775, 8603, 6083, 352, 4135

5 5432, 7846, 6408, 7864, 6438

6 8385, 2835, 8487, 8382, 8478

7 1432, 8211, 6854, 1386, 8217

B. Rewrite the following numbers in the descending order.

1 7548, 7683, 7672, 7541, 8351

2 2408, 3781, 2648, 3568, 2480

3 5841, 3408, 2589, 3682, 2594

4 4876, 927, 4276, 8271, 4259

5 6083, 8448, 4687, 6035, 8438

6 5873, 1684, 1647, 5768, 1689

7 7259, 6435, 6819, 7239, 6853

Forming Numbers with the given Digits

We can form different numbers with the given digits by putting the digits in different places.

(a) Without repetition of digits

Example 1 Obtain the largest four digit number using the digits 6, 0, 8, 3 (without repetition).

Solution :

To get the greatest number, we arrange the given digits in descending order.

$$8 > 6 > 3 > 0$$

$\therefore$ The greatest four digit number formed using the digits 6, 0, 8, 3 is 8630.

Example 2 Write the smallest four digit number using the digits 5, 7, 3, 4.

Solution :

To get the smallest number, we arrange the given digits in ascending order.

$$3 < 4 < 5 < 7$$

$\therefore$ The smallest number formed using the digits 5, 7, 3, 4 is 3457.

Note : If one of the given digits is '0', instead of writing '0' at the extreme left place, write it at the second place from the left to get the smallest number.

Example 3 Write the smallest four digit number using the digits 8, 0, 2, 3.

Solution :

The smallest number formed using the digits 0, 2, 3, 8 is 2038.

(b) With repetition of digits

Example 1 Write the greatest 4-digit number using the digits 7, 3, 9.

Solution :

To get the greatest number, first write the digits in descending order.

$$9 > 7 > 3$$

Since, the digits can be repeated, the greatest number is formed by repeating the greatest digit *i.e.* 9.

$\therefore$ The greatest 4-digit number formed using 7, 3, 0, 9 is **9973**.

Example 2 Write the smallest 4-digit number using the digits 2, 0, 5.

Solution :

To get the smallest number, first write the digits in ascending order.

$$0 < 2 < 5$$

Although 0 is the smallest number, 0025 is not a 4-digit but a 2-digit number. So, we will write the next bigger number *i.e.* 2 in the thousands place followed by 0 in hundreds place and tens place.

$\therefore$ The smallest number formed using the digits 2, 0, 5 is **2005**.

Exercise 2(H)

A. Write the greatest and smallest 4-digit numbers using the given sets of digits, without repeating any digit in the number.

	Digits	Greatest number	Smallest number
1	7, 4, 2, 6		
2	5, 2, 8, 4		
3	1, 7, 3, 8		
4	8, 0, 4, 7		
5	9, 2, 0, 5		
6	9, 7, 5, 3		
7	4, 0, 1, 2		
8	6, 5, 0, 1		
9	2, 9, 7, 0		
10	3, 2, 1, 9		

B. Write the greatest and smallest 4-digit numbers using the given sets of digits if repetition of digits is allowed.

	Digits	Greatest number	Smallest number
1	3, 2, 7, 5		
2	4, 1, 7, 0		
3	2, 7, 0, 5		
4	4, 5, 9, 1		
5	9, 6, 8, 3		
6	5, 7, 0, 2		
7	9, 3, 1, 0		
8	7, 2, 3, 6		
9	8, 6, 4, 2		
10	9, 8, 7, 0		

Even and Odd Numbers

A number in which ones digit is 0, 2, 4, 6 or 8 is an **even number**.

For example 16, 34, 50, 312, 5278 are even numbers as their ones digits are 6, 4, 0, 2 and 8 respectively.

A number in which ones digit is either 1, 3, 5, 7 or 9 is an **odd number**.

For example 13, 27, 75, 249, 4867 are odd numbers as their ones digits are 3, 7, 5, 9 and 7 respectively.

Exercise 2(I)

A. Write (O) against the odd numbers and (E) against the even numbers.

1	36		2	69	
3	240		4	476	
5	4681		6	6794	
7	5763		8	8978	
9	7318		10	3571	
11	47		12	9765	
13	689		14	5102	
15	6380		16	7501	

B. Write all the odd numbers between the two given numbers :

1 5013 to 5039

5013				5019
		5025		
				5039

2 4471 to 4497

			4475	
		4483		
			4495	

B. Write all the even numbers between the two given numbers.

1 9244 to 9270

			9248	
		9256		
	9264			

2 5212 to 5248

			5216	
		5224		
			5236	
		5244		

Numbers beyond 9999

We have already learnt that

10 ones = 1 ten

10 tens = 1 hundred

10 hundreds = 1 thousand

What are 10 thousands equal to ?

10 thousands = 1 Ten thousand

We write ten thousand as 10000.

We get ten thousand by adding 1 to 9999.

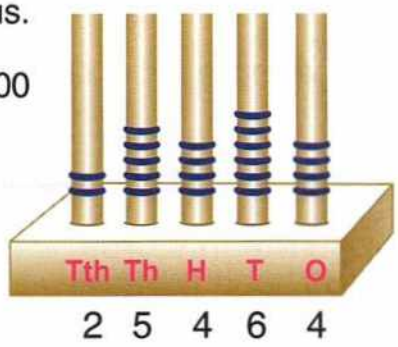
9999 + 1 = 10000

10 Thousands

=

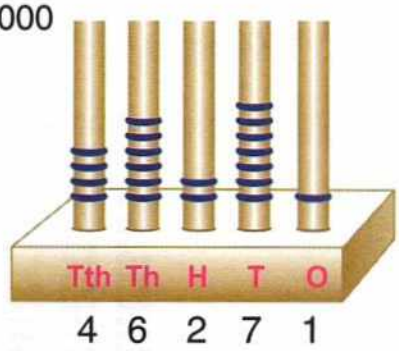
1 Ten Thousand

Example 1 Find the place value of 25464 using abacus.



2 is in the ten thousands' place, thus the place value of 2 = 20000
5 is in the thousands' place, thus the place value of 5 = 5000
4 is in the hundreds' place, thus the place value of 4 = 400
6 is in the tens' place, thus the place value of 6 = 60
4 is in the ones' place, thus the place value of 4 = 4
20000 + 5000 + 400 + 60 + 4 = 25464
We read it as twenty five thousand four hundred sixty four.

Example 2 Find the place value of 46271 using abacus.



4 is in the ten thousands' place, thus the place value of 4 = 40000
6 is in the thousands' place, thus the place value of 6 = 6000
2 is in the hundreds' place, thus the place value of 2 = 200
7 is in the tens' place, thus the place value of 7 = 70
1 is in the ones' place, thus the place value of 1 = 1
40000 + 6000 + 200 + 70 + 1 = 46271
We read it as forty six thousand two hundred seventy one.

Remember : Like we read the digits at tens' place and ones' place together, we also read the digits at ten thousands' place and thousands' place togther.

Write in Figures

Example Eighty thousand seven hundred eighty eight = 80788

Exercise 2(J)

Write in figures.

1. Twenty thousand five hundred forty two
2. Thirty seven thousand nine hundred twenty four
3. Fifty five thousand five hundred fifty five
4. Seventy four thousand three hundred two
5. Ninety four thousand two hundred three

Write in Words

Example 32274 = Thirty two thousand two hundred seventy four

Exercise 2(K)

A. Write in words.

1 22541 = _____

2 89940 = _____

3 66729 = _____

4 93286 = _____

5 40283 = _____

B. Write the number shown on each abacus.

1

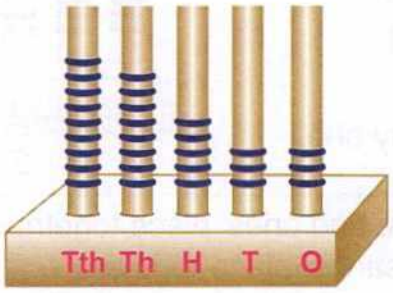


Figure _____

Words _____

_____

2

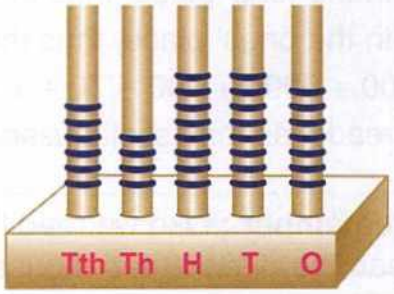


Figure _____

Words _____

_____

3

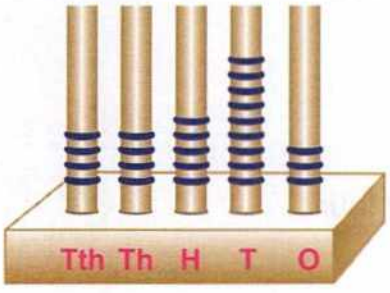


Figure _____

Words _____

_____

4

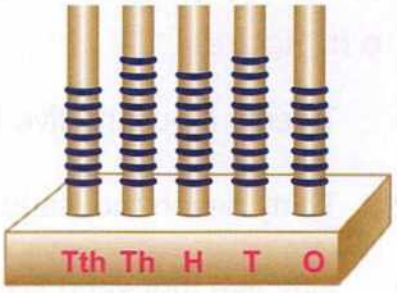


Figure _____

Words _____

_____

5

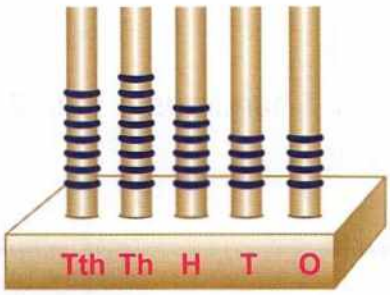


Figure _____

Words _____

_____

6

Figure _____

Words _____

_____

C. Draw each of the following numbers on an abacus in your note book.

(a) 27543 (b) 32546 (c) 42767

(d) 61872 (e) 72576

Expanded Notation

Example Thirty five thousand eight hundred fifty six (35856) written in expanded form is : = 3 ten thousands 5 thousands 8 hundreds 5 tens 6 ones.

Exercise 2(L)

Write each number in expanded notation.

1 17814 = ___ ten thousand ___ thousands ___ hundreds ___ ten ___ ones

2 24836 = ___ ten thousands ___ thousands ___ hundreds ___ tens ___ ones

3 37942 = ___ ten thousands ___ thousands ___ hundreds ___ tens ___ ones

4 72043 = ___ ten thousands ___ thousands ___ hundreds ___ tens ___ ones

5 92128 = ___ ten thousands ___ thousands ___ hundred ___ tens ___ ones

6 57907 = ___ ten thousands ___ thousands ___ hundreds ___ tens ___ ones

7 82629 = ___ ten thousands ___ thousands ___ hundreds ___ tens ___ ones

Expanded Form

Example 21742 = 2 ten thousands 1 thousand 7 hundreds 4 tens 2 ones

$\therefore$ 21742 = 20000 + 1000 + 700 + 40 + 2

Exercise 2(M)

Write the expanded form of each of the following :

1. 58924 = _____
2. 89075 = _____
3. 71007 = _____
4. 95570 = _____
5. 62665 = _____

Compact Form

Example Express 20000 + 7000 + 400 + 90 + 1 in compact form (short form).

Answer : 20000 + 7000 + 400 + 90 + 1 = 27491

Exercise 2(N)

Express in compact form.

1. 10000 + 7000 + 500 + 0 + 4 = _____
2. 40000 + 0 + 700 + 80 + 6 = _____
3. 60000 + 1000 + 100 + 10 + 1 = _____
4. 10000 + 4000 + 0 + 0 + 4 = _____
5. 90000 + 7000 + 500 + 60 + 6 = _____

Place Value

Example Write the place value of 3 in 35451.

3 is in the ten thousands' place, so the place value of 3 = 30000.

Exercise 2(O)

1. Write the place value of the coloured digits.

Number	Place Value	Number	Place Value
(a) 47878	_____	(b) 28743	_____
(c) 58791	_____	(d) 60847	_____
(e) 78918	_____	(f) 82040	_____
(g) 60942	_____	(h) 91919	_____

2. (a) Write the place value of digit 5 in the following numbers.

(i) 58418	(ii) 68715	(iii) 71581	(iv) 65402	(v) 21650
_____	_____	_____	_____	_____

(b) Write the place value of digit 9 in the following numbers.

(i) 49718	(ii) 63092	(iii) 39415	(iv) 92166	(v) 84917
_____	_____	_____	_____	_____

(c) Write the place value of digit 7 in the following numbers.

(i) 718	(ii) 78214	(iii) 67118	(iv) 24017	(v) 38478
_____	_____	_____	_____	_____

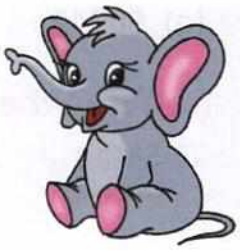
3 Addition

Addition

We are familiar with the addition of 1-digit, 2-digit and 3-digit numbers. Let us now look at some examples of addition involving 4-digit numbers.

Addition of Two 3-digit Numbers (without carry over)

Example Add 246 and 712.



METHOD :

Step 1 : Add the ones digits together.
6 ones + 2 ones = 8 ones
Write 8 under the ones column.

Step 2 : Add the tens digits together.
4 tens + 1 ten = 5 tens
Write 5 under the tens column.

Step 3 : Add the hundreds digits together.
2 hundreds + 7 hundreds = 9 hundreds
Write 9 under the hundreds column.

H	T	O
2	4	6
+ 7	1	2
9	5	8

Ans : 958

Exercise 3(A)

Add the following numbers.

1

H	T	O
1	3	0
+ 2	2	8

2

H	T	O
3	6	0
+ 2	1	7

3

H	T	O
6	4	2
+ 3	0	5

4

H	T	O
5	5	1
+ 4	2	6

5

H	T	O
5	6	2
+ 3	3	4

6

H	T	O
3	7	2
+ 4	1	6

7

H	T	O
2	4	5
+ 1	2	3

8

H	T	O
4	5	6
+ 3	4	2

9

	H	T	O
	2	4	8
+	3	4	1

10

	H	T	O
	5	2	3
+	1	1	1

11

	H	T	O
	2	4	0
+	3	3	5

12

	H	T	O
	2	5	0
+	2	2	3

13

	H	T	O
	2	3	0
+	1	1	6

14

	H	T	O
	1	0	4
+	3	2	2

15

	H	T	O
	4	3	0
+	2	0	3

16

	H	T	O
	5	0	2
+	1	1	2

Addition of Two 3-digit Numbers (with carry over)

Example Add 564 and 258.

METHOD :

Step 1 : Add the ones digits together.
4 ones + 8 ones = 12 ones
= 10 ones + 2 ones
= 1 ten + 2 ones
Write 2 under the ones column. Carry over 1 ten to the tens column.

	T	O	H
	1	1	
	5	6	4
+	2	5	8
	8	2	2

Step 2 : Add the tens digits together.
6 tens + 5 tens + 1 ten (carry over) = 12 tens
= 10 tens + 2 tens
= 1 hundred + 2 tens
Write 2 under the tens column.
Carry over 1 hundred to the hundreds column.

Step 3 : Add the hundreds digits together.
5 hundreds + 2 hundreds + 1 hundred (carry over) = 8 hundreds
Write 8 under the hundreds column. **Ans :** 822

Exercise 3(B)

Add the following numbers.

1

	H	T	O
	4	6	8
+	4	5	4

2

	H	T	O
	3	6	5
+	4	7	8

3

	H	T	O
	5	2	5
+	1	3	9

4

	H	T	O
	2	8	3
+	3	6	4

5

H	T	O
4	8	5
+ 5	4	8

6

H	T	O
2	7	4
+ 3	6	5

7

H	T	O
3	5	9
+ 3	8	5

8

H	T	O
4	7	5
+ 2	5	7

9

H	T	O
7	7	5
+ 5	3	8

10

H	T	O
6	5	4
+ 3	7	5

11

H	T	O
6	6	7
+ 2	4	4

12

H	T	O
9	5	6
+ 0	5	4

Addition of a 3-digit Number and a 4-digit Number

Example Add 3304 and 828.

Th	H	T	O
	1		1
3	3	0	4
+	8	2	8
4	1	3	2

METHOD :

Step 1 : Add the ones.

4 ones + 8 ones = 12 ones = 1 ten + 2 ones

Carry over 1 ten to the tens column and write 2 under ones column.

Step 2 : Add the tens.

2 tens + 1 ten (carry over) = 3 tens.

Write 3 under tens column.

Step 3 : Add the hundreds.

3 hundreds + 8 hundreds = 11 hundreds

= 10 hundreds + 1 hundred

Now, 10 hundreds = 1 thousand

So, carry over 1 thousand to thousands column and write 1 under hundreds column.

Step 4 : Add the thousands and write the sum under thousands column.

3 thousands + 1 thousand (carry over) = 4 thousands

Ans : 4132

Exercise 3(C)

Add the following numbers.

1 Th H T O 4 6 9 2 + 3 4 8	2 Th H T O 5 9 0 4 + 8 2 9	3 Th H T O 7 5 5 5 + 7 8 5	4 Th H T O 6 8 9 1 + 2 7 9	5 Th H T O 3 7 5 6 + 3 2 6
6 Th H T O 8 4 3 1 + 7 1 8	7 Th H T O 9 0 4 9 + 8 6 1	8 Th H T O 2 9 9 9 + 6 8 2	9 Th H T O 5 7 7 9 + 5 5 8	10 Th H T O 9 4 8 7 + 4 5 6
11 Th H T O 4 2 4 3 + 4 1 6	12 Th H T O 5 0 9 8 + 2 1 3	13 Th H T O 7 6 9 4 + 3 2 8	14 Th H T O 3 0 0 9 + 9 9 1	15 Th H T O 4 2 4 3 + 7 0 6

Addition of Two 4-Digit Numbers (without carry over)

Example Add 3124 and 4350.

Th H T O
3 1 2 4
+ 4 3 5 0
7 4 7 4

METHOD :

Step 1 : Add the ones together.
4 ones + 0 ones = 4 ones
Write 4 under the ones column.

Step 2 : Add the tens together.
2 tens + 5 tens = 7 tens
Write 7 under tens column.

Step 3 : Add the hundreds together.
1 hundred + 3 hundreds = 4 hundreds
Write 4 under hundreds column.

Step 4 : Add the thousands together.
3 thousands + 4 thousands = 7 thousands
Write 7 under thousands column.

Ans : 7474

Exercise 3(D)

Add the following numbers.

1
Th	H	T	O
2	4	7	3
+ 5	2	1	4

2
Th	H	T	O
3	2	5	6
+ 2	5	4	0

3
Th	H	T	O
4	0	3	5
+ 1	2	1	3

4
Th	H	T	O
7	5	8	4
+ 1	2	0	1

5
Th	H	T	O
1	5	2	3
+ 3	3	6	5

6
Th	H	T	O
7	2	4	0
+ 2	3	0	6

7
Th	H	T	O
3	2	1	5
+ 4	2	1	3

8
Th	H	T	O
7	4	0	5
+ 1	2	4	1

9
Th	H	T	O
3	7	1	5
+ 2	0	3	1

10
Th	H	T	O
8	1	1	2
+ 1	2	7	1

Addition of Two 4-digit Numbers (with carry over)

Example Add 4738 and 2545.

METHOD :

Step 1 : Add the ones together.
8 ones + 5 ones = 13 ones
= 1 ten + 3 ones
Carry over 1 ten to the tens column.
Write 3 under ones column.

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

Step 2 : Add the tens together.
3 tens + 4 tens + 1 ten (carry over) = 8 tens
Write 8 under tens column.

Step 3 : Add the hundreds together.
7 hundreds + 5 hundreds = 12 hundreds
= 1 thousand + 2 hundreds
Carry over 1 thousand to the thousands column and write 2 under hundreds column.

Step 4 : Add the thousands together.
4 thousands + 2 thousands + 1 thousand (carry over)
= 7 thousands
Write 7 under thousands column.

Ans : 7283

Exercise 3(E)

Add the following numbers.

1 Th H T O 2 5 3 8 + 4 2 2 5	2 Th H T O 3 0 8 5 + 2 4 6 8	3 Th H T O 4 5 6 7 + 1 7 2 6	4 Th H T O 3 5 4 2 + 1 2 8 5	5 Th H T O 2 7 3 5 + 4 5 4 9
6 Th H T O 3 6 9 2 + 1 6 9 0	7 Th H T O 2 7 5 3 + 1 4 5 4	8 Th H T O 3 5 4 7 + 1 9 2 6	9 Th H T O 4 5 4 3 + 1 0 9 9	10 Th H T O 6 9 9 7 + 2 0 2 7

Addition of Three 4-digit Numbers

Example Add 4299, 1084 and 1931.

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

METHOD :

Step 1 : Add the ones.
9 ones + 4 ones + 1 one = 14 ones = 1 ten + 4 ones
Carry over 1 ten to the tens column and write 4 under ones column.

Step 2 : Add the tens.
9 tens + 8 tens + 3 tens + 1 ten (carry over) = 21 tens
= 2 hundreds + 1 ten
Carry over 2 hundreds to the hundreds colum and write 1 under tens column.

Step 3 : Add the hundreds.
2 hundreds + 0 hundreds + 9 hundreds + 2 hundreds (carry over)
= 13 hundreds = 1 thousand + 3 hundreds
Carry over 1 thousand to the thousands column and write 3 under hundreds column.

Step 4 : Add the thousands.
4 thousands + 1 thousand + 1 thousand + 1 thousand (carry over)
= 7 thousands. Write 7 under thousands column. **Ans :** 7314

Exercise 3(F)

Add the following numbers.

Th	H	T	O
2	3	6	2
2	1	3	0
+ 4	2	1	0

Th	H	T	O
4	3	0	2
3	0	9	4
+ 1	3	1	6

Th	H	T	O
2	1	2	6
4	5	9	1
+ 2	1	2	1

Th	H	T	O
3	0	9	5
5	0	3	2
+ 1	2	1	1

Th	H	T	O
1	3	5	7
4	5	0	1
+ 2	1	1	1

Th	H	T	O
1	0	8	9
2	8	9	0
+ 3	9	8	0

Th	H	T	O
4	3	5	6
3	1	2	2
+ 1	0	0	9

Th	H	T	O
5	0	0	4
2	9	9	9
+ 1	0	0	6

Th	H	T	O
3	1	2	3
5	6	1	7
+ 1	0	8	0

Th	H	T	O
4	1	4	4
3	0	9	8
+ 1	9	2	1

Th	H	T	O
4	5	5	5
3	7	2	2
+ 1	0	5	9

Th	H	T	O
2	4	7	5
3	5	0	7
+ 1	0	9	0

Exercise 3(G)

Word problems.

1. A school has 643 boys and 295 girls. How many students study in the school ?
2. Ravi bought textbooks for ₹ 768 and notebooks for ₹ 185. How much money did he spend in all ?

3 A gardener planted 264 marigolds, 425 roses and 240 sunflowers. How many flower plants did he plant in all ?

4 Vikas has 1245 stamps and Vidhi has 157 stamps. How many stamps do they have in all ?

5 There are 1324 males and 1287 females in a village. How many people live in the village altogether ?

6 A farmer produced 1328 bags of wheat and 1098 bags of rice. How many bags of cereals did he produce ?

7 A library has a collection of 3457 English books, 1425 Hindi books and 1890 science books. How many books are there in the library ?

8 There are two bags. The first bag contains 1270 chocolates and the second bag contains 2409 chocolates. How many chocolates are there in all ?

9 A company sold 5773 cars in a year and 3281 cars in the following year. How many cars did the company sell in the two years ?

10 Kirti's salary is ₹ 7598 per month and her brother's salary is ₹ 1758 per month. How much do they together earn in a month ?

Estimation

Estimation is an approximate or rough calculation of numbers. It helps us to get a general idea about costs, expenses, etc. Estimation is done by rounding off the given numbers to the nearest 10, 100 or 1000. Estimation of numbers helps in organising events like cricket matches, sports events, school fetes and exhibitions efficiently.

An estimate is an answer close to the exact answer.

Estimation of Sums :

We use estimation to find the approximate value of sums of numbers. Based on the degree of accuracy required, we often round off the numbers added to the nearest 10, 100 or 1000.

Rules to round a number to the nearest 10, 100 and 1000.

(1) To round off a number to the nearest 10 :

- We consider the ones digit of the given number.
- If it is 5 or more, then add 1 (one) to the tens digit and put zero (0) at the ones place.
- If the ones digit is less than five (5), put zero (0) at the ones place. No change is made in the tens digit.

Example Round off the following numbers to the nearest 10

(i) 35 (ii) 43 (iii) 1357 (iv) 8512

Solution :

(i) Since ones digit in 35 is 5, we round it off as 40.

(ii) Since ones digit in 43 is 3, we round it off as 40.

(iii) Since ones digit in 1357 is 7, we round it off as 1360.

(iv) Since ones digit in 8512 is 2, we round it off as 8510.

(2) To round off to the nearest 100 :

- We consider the tens digit.
- If it is 5 or more, we put zeroes at the units and tens places and add one to the hundreds digit.
- If the tens digit is less than 5, we put zeroes at the tens and units places and keep the hundreds digit as it is.

Example Round off the following to the nearest 100.

(i) 783 (ii) 4371 (iii) 5641 (iv) 7865

Solution :

(i) Since the tens digit in 783 is 8, we round off the number as 800.

(ii) Since the tens digit in 4371 is 7, we round off the number as 4400.

(iii) Since the tens digit in 5641 is 4, we round off the number as 5600.

(iv) Since the tens digit in 7865 is 6, we round off the number as 7900.

(3) To round off a number to the nearest 1000 :

- If the digit at hundreds place is 5 or more, we put zeroes on ones, tens and hundreds places and add one to the thousands digit.
- However, if the digit at the hundreds place is less than five, we add zeroes at the ones, tens and hundreds places and keep the thousands digit as it is

Example 1 Round off the following numbers to the nearest 1000.

(i) 1253 (ii) 3456 (iii) 8753 (iv) 7123

Solution :

(i) In 1253, since the hundreds digit is 2, we round it off as 1000.

(ii) In 3456, since the hundreds digit is 4, we round it off as 3000.

(iii) In 8753, since the hundreds digit is 7, we round it off as 9000.

(iv) In 7123, since the hundreds digit is 1, we round it off as 7000.

Example 2 Estimate the following sums by rounding off the numbers to the nearest 10.

(i) 350 + 495 + 1235 + 5213

(ii) 735 + 832 + 1357 + 3821

Solution : (i) 350 + 495 + 1235 + 5216

On rounding off to the nearest 10, we get —

350 + 500 + 1240 + 5220 = 7310

350
500
1240
+ 5220
7310

(ii) 735 + 832 + 1357 + 3821

On rounding off to the nearest 10, we get —

740 + 830 + 1360 + 3820 = 6750

740
830
1360
+ 3820
6750

Example 3 Estimate the following sum to the nearest 100 and then to the nearest 1000.

2345 + 3532 + 2363 + 1325

Solution : Rounding off to the nearest 100 we get —

2345 + 3532 + 2363 + 1325

= 2300 + 3500 + 2400 + 1300 = 9500

Rounding off the above to the nearest 1000, we get —

2000 + 4000 + 2000 + 1000 = 9000

2300
3500
2400
+ 1300
9500

Example 4 In a school there are 1832 students in the primary section, 1527 students in the middle section and 2572 students in the senior section. Estimate the total number of students in the school by :

(i) rounding off each number to the nearest 10 and

(ii) rounding of each number to the nearest 100.

Check if the estimated number in each case is close to the actual sum or not.

Solution : (i) Number of students of each section are 1832, 1527, and 2572 respectively.

Rounding off to the nearest 10, we get 1830, 1530 and 2570.

$\therefore$ 1830 + 1530 + 2570 = 5930

Actual sum = 1832 + 1527 + 2572

= 5931

The difference = 5931 − 5930 = 1

1832
1527
+ 2572
5931
Actual sum

1830
1530
+ 2570
5930
Estimated sum to the nearest 10.

(ii) Number of students are 1832, 1527 and 2572 respectively.

Rounding off to the nearest 100, we get

$1800 + 1500 + 2600 = 5900$

The difference from the actual sum

$= 5931 - 5900 = 31$

1800
1500
+ 2600
5900

Estimated sum to the nearest 100.

Exercise 3(H)

1 Estimate the following by rounding off to the nearest 10.

(i) 837 (ii) 1241 (iii) 8345 (iv) 6782

2 Estimate the following by rounding off to the nearest 100.

(i) 887 (ii) 3215 (iii) 8432 (iv) 3245

3 Estimate the following numbers to the nearest 100.

(i) 3532 (ii) 4442 (iii) 7641 (iv) 3219

4 Estimate the following numbers to the nearest 1000.

(i) 4349 (ii) 3215 (iii) 2175 (iv) 1256

5 Estimate the following numbers to the nearest 10, 100 and 1000.

(i) 8345 (ii) 7875 (iii) 4837 (iv) 3498

6 Estimate the following sums :

(i) 326 + 4512 + 1234 + 3215 (to the nearest 10)

(ii) 1251 + 2341 + 3276 + 4127 (to the nearest 100)

(iii) 3518 + 1349 + 2751 + 4218 (to the nearest 1000)

7 Estimate the following sums to the nearest 1000.

(i) 4567 + 2137 + 835 + 1356

(ii) 1356 + 1567 + 4321 + 8345

(iii) 3456 + 1278 + 2567 + 1837

8 On Friday, Saturday and Sunday, 1356, 2518 and 3186 people attended a magic show. Estimate the total number of people who attended the show on the three days. (Round off to the nearest 100). Find its difference with the actual number of people who attended the show.

9 The classes I, II and III of a school have 2348, 3183 and 2891 students respectively. Estimate the total number of students of these classes by rounding off to the nearest 100.

Addition of Five Digit Numbers

You have already learnt the addition of 2, 3 and 4-digit numbers. We use the same method for adding 5-digit numbers also.

Example 1 Add 34784 and 26358.

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

METHOD : Always start with the ones.

Step 1 : Add the ones. 4 + 8 = 12 ones = 1 ten + 2 ones.
Write 2 under ones' column and carry 1 ten to the tens' column.

Step 2 : Add the tens. 8 + 5 + 1 (carry over) = 14 tens.
= 1 hundred + 4 tens. Write 4 under tens' column and carry 1 hundred to the hundreds' column.

Step 3 : Add the hundreds. 7 + 3 + 1 (carry over) = 11 hundreds.
= 1 thousand + 1 hundred. Write 1 under the hundreds' column and carry 1 thousand to the thousands' column.

Step 4 : Add the thousands. 4 + 6 + 1 (carry over) = 11thousands
= 1 ten thousand + 1 thousand. Write 1 thousand under the thousands' column and carry 1 ten thousand to the ten thousands' column.

Step 5 : Add the ten thousands. 3 + 2 + 1 (carry over) = 6 ten thousands. Write 6 under the ten thousands' column.

Ans : 61142

Example 2 Add 15510, 25806 and 35916.

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

Steps are the same as above.

Ans : 77232

Exercise 3(I)

A. Add the following :

1

Tth	Th	H	T	O
2	3	3	7	6
+3	4	3	8	3

2

Tth	Th	H	T	O
3	1	2	9	6
+4	7	3	4	3

3

Tth	Th	H	T	O
4	5	2	5	5
3	3	8	4	2
+2	0	8	3	3

4

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

5

Tth	Th	H	T	O
4	2	5	4	6
4	2	6	4	3
+ 1	3	4	5	9

6

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

7

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

8

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

9

2	4	2	7	6
3	5	3	8	4
+ 3	0	0	9	6

10

2	5	2	1	3
3	3	8	4	2
+ 3	8	9	2	6

11

1	5	5	1	0
2	5	8	0	6
+ 3	5	9	1	6

12

	7	1	9
2	1	8	4
+ 6	7	8	9	3

13

3	1	0	5	2
2	4	1	5	7
+ 4	1	4	5	4

14

1	2	5	1	2
6	0	7	3	5
+ 2	5	8	4	1

15

4	2	7	0	9
2	7	4	3	1
+ 3	0	1	0	2

16

6	1	2	3	0
	3	4	5	3
+	9	1	0	5

17

7	2	5	3	7
1	1	4	4	0
+ 9	5	3	1	5

18

3	5	1	3	7
5	0	6	3	5
+ 7	1	7	0	2

19

9	3	3	1	5
4	0	2	5	0
+ 5	4	0	1	1

20

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

Practise in your notebook.

B. Write in ascending order and then add.

1. 22342, 37265 and 28214
2. 3716, 28182, 696 and 14450
3. 19500, 9550, 25816 and 4775
4. 33316, 595, 27216 and 7225
5. 4532, 67998, 54612 and 4321
6. 14532, 37998, 44612 and 7321
7. 12101, 55009, 41752 and 3509
8. 16111, 52210, 66601 and 9092
9. 6095, 33741, 68809 and 7951
10. 74125, 85998, 65251 and 3101

C. Express the following numbers in figures and then add in your notebook.

1 Two thousand seven hundred four, Four hundred eighty six, Thirty two thousand six hundred sixty four.

2 Eighty nine, Four thousand five hundred forty, Forty two thousand seventy five.

3 Two thousand four hundred twenty three, Sixty six thousand seven hundred four, Eighteen thousand sixty.

4 Fifty seven thousand two hundred thirty eight, Sixty eight, Nine hundred nine.

5 Seventy one thousand three hundred, Six thousand four hundred eight, Nine thousand thirteen, Fourteen thousand four hundred forty four.

D. Word Problems

6 In a cricket match, the attendance on Saturday was 26695 and on Sunday, it was 48788. How many people witnessed the match on these two days ?

7 Amit purchased a vehicle for ₹ 73425. He then spent ₹ 9085 on repairs. How much did the vehicle cost him after the repairs ?

8 In a city, there are 24196 Neem trees, 16899 Banyan trees and 31245 Peepal trees. Find the total number of trees in the city.

9 There are 43927 males, 32465 females and 20126 children in a town. Find the total population of the town.

10 37594 people watched the semifinal of the hockey world cup match, but 14070 more people watched the finals. How many people watched the finals ?

4 Subtraction

A. Subtraction

In previous classes we have learnt subtraction involving 1-digit, 2-digit and 3-digit numbers. Let us now learn subtraction of 4-digit numbers.

Subtraction of a 3-digit Number from a 3-digit Number (without regrouping)

Example Subtract 217 from 428.

	H	T	O
	4	2	8
–	2	1	7
	2	1	1

METHOD :

Step 1 : Write the numbers as shown alongside.

Step 2 : First, subtract ones.
8 ones – 7 ones = 1 one.
Write 1 under ones column as shown.

Step 3 : Second, subtract tens.
2 tens – 1 ten = 1 ten.
Write 1 under tens column as shown.

Step 4 : Finally subtract hundreds.
4 hundreds – 2 hundreds = 2 hundreds.
Write 2 under hundreds column as shown.

Ans. 211

Exercise 4(A)

A. Subtract.

1

	H	T	O
	3	4	9
–	1	2	3

2

	H	T	O
	3	1	2
–	3	1	2

3

	H	T	O
	9	8	4
–	3	7	2

4

	H	T	O
	9	4	3
–	8	2	1

5

	H	T	O
	5	1	1
−	4	0	0

6

	H	T	O
	6	8	1
−	4	7	1

7

	H	T	O
	1	2	3
−	1	1	2

8

	H	T	O
	7	9	1
−	2	8	1

9

	H	T	O
	7	3	6
−	6	3	2

10

	H	T	O
	2	5	1
−	2	0	0

11

	H	T	O
	6	4	8
−	5	2	2

12

	H	T	O
	3	6	8
−	3	3	5

13

	H	T	O
	3	1	5
−	2	0	1

14

	H	T	O
	8	4	2
−	3	2	1

15

	H	T	O
	7	6	8
−	3	2	4

16

	H	T	O
	7	2	9
−	5	1	5

Subtraction of a 3-digit Number from another 3-digit Number (with regrouping)

Example 1 Subtract 416 from 925.

	H	T	O
		(1)	(15)
	9	~~2~~	~~5~~
−	4	1	6
	5	0	9

METHOD :

Step 1 : Write the numbers as shown.

Step 2 : Subtract 6 ones from 5 ones, but 5 is less than 6. So we will borrow 1 ten from the tens digit 2. So, 5 ones become 15 ones and 2 tens become 1 ten.

Step 3 : Subtract 6 ones from 15 ones.

15 ones – 6 ones = 9 ones.

Write 9 under ones column as shown.

Step 4 : Subtract 1 ten from 1 ten.

1 ten – 1 ten = 0 tens.

Write 0 under tens column as shown.

Step 5 : Subtract 4 hundreds from 9 hundreds.

9 hundreds – 4 hundreds = 5 hundreds.

Write 5 under hundreds column as shown. **Ans.** 509

Example 2 Subtract 289 from 478.

H	T	O
3	~~8~~ 16	18
~~4~~	~~7~~	~~8~~
– 2	8	9
1	8	9

METHOD :

Step 1 : Write the numbers as shown.

Step 2 : Subtract 9 ones from 8 ones, but 8 is less than 9. So we will borrow 1 ten from 7 tens. So, 8 ones will become 18 ones and 7 tens will become 6 tens.

Step 3 : Subtract 9 ones from 18 ones.

18 ones – 9 ones = 9 ones.

Write 9 under ones column as shown.

Step 4 : Subtract 8 tens from 6 tens, but 6 is less than 8. So borrow 1 hundred from hundreds place. 6 tens will become 16 tens and 4 hundreds will become 3 hundreds.

16 tens – 8 tens = 8 tens.

Write 8 under tens column as shown.

Step 5 : Subtract 2 hundreds from 3 hundreds.

3 hundreds – 2 hundreds = 1 hundred

Write 1 under hundreds column as shown.

Ans. 189

Exercise 4(B)

Subtract the following.

1

H	T	O
2	1	7
– 1	0	8

2

H	T	O
2	2	4
– 1	3	5

3

H	T	O
4	5	1
– 1	5	2

4

H	T	O
8	4	5
– 4	2	9

5

H	T	O
3	8	8
– 1	9	9

6

H	T	O
2	4	8
– 1	4	9

7

H	T	O
3	7	2
– 1	8	6

8

H	T	O
8	9	1
– 6	4	3

9

H	T	O
8	3	5
– 4	8	4

10

H	T	O
5	8	6
– 4	9	7

11

H	T	O
9	7	6
– 3	8	4

12

H	T	O
7	3	6
– 4	5	9

13

H	T	O
6	7	5
– 2	9	6

14

H	T	O
2	3	5
– 1	8	9

15

H	T	O
8	7	3
– 8	5	4

16

H	T	O
9	2	3
– 7	4	9

Subtraction of 4-digit Numbers (without regrouping)

Example Subtract 4200 from 9361.

Th	H	T	O
9	3	6	1
– 4	2	0	0
5	1	6	1

METHOD :

Step 1 : Subtract the ones and write the difference under ones column.
1 one – 0 ones =1 one.

Step 2 : Subtract the tens and write the difference under tens column.
6 tens – 0 tens = 6 tens.

Step 3 : Subtract the hundreds and write the difference under hundreds column.
3 hundreds – 2 hundreds = 1 hundred

Step 4 : Subtract the thousands and write the difference under thousands column.
9 thousands – 4 thousands = 5 thousands

Ans. 5161

Exercise 4(C)

A. Subtract the following numbers.

Th	H	T	O
4	7	6	5
– 1	5	2	3

Th	H	T	O
5	9	3	7
– 4	1	0	4

Th	H	T	O
6	3	8	2
– 2	0	3	2

Th	H	T	O
3	5	4	1
– 1	0	2	1

Th	H	T	O
9	4	7	3
– 3	1	0	1

Th	H	T	O
7	5	9	5
– 1	3	1	2

Th	H	T	O
9	4	5	7
– 2	1	0	4

Th	H	T	O
8	5	9	7
– 4	0	6	4

Th	H	T	O
7	6	4	5
– 4	3	2	1

Th	H	T	O
5	7	9	5
– 2	5	0	2

B. Write the following numbers in columns and find their difference.

1 6553 – 2141 _____

2 9256 – 5022 _____

3 8744 – 3213 _____

4 5827 – 1303 _____

5 7385 – 4132 _____

6 8652 – 5140 _____

7 9726 – 1303 _____

8 7576 – 4132 _____

Subtraction with 4-digit Numbers (with regrouping)

Example 1 Subtract 399 from 7405.

Th	H	T	O
		9	
	3	~~10~~	15
7	~~4~~	~~0~~	~~5~~
–	3	9	9
7	0	0	6

METHOD :

Step 1 : Subtract the ones.

5 < 9. Therefore, to subtract 9 ones from 5 ones, we have to borrow one ten from tens place. But the digit at the tens place is 0. So, we will borrow one hundred from the hundreds place.

Step 2 : Instead of 4 hundreds and 0 tens, we now have 3 hundreds and 10 tens. From 10 tens, we borrow one ten. So, we now have 3 hundreds, 9 tens and 15 ones.

Step 3 : Subtract and write the difference in their respective columns.

Ans. 7006

Example 2 Subtract 4299 from 9000.

Th	H	T	O
	9	9	
8	~~10~~	~~10~~	10
~~9~~	~~0~~	~~0~~	~~0~~
– 4	2	9	9
4	7	0	1

METHOD :

Step 1 : We cannot subtract 9 ones from 0. So, we have to borrow 1 ten.

Step 2 : Here we have zeroes at the tens and hundreds columns. Hence, borrow first from the thousands place.

We have 8 thousands and 10 hundreds now instead of 9 thousands and 0 hundreds.

Borrowing again 1 hundred from hundreds place to the tens place, we get 9 hundreds and 10 tens.

Finally borrowing one ten from the tens place, we get 9 tens and 10 ones.

Step 3 : Subtract and write the differences in their respective columns.

Ans. 4701

Exercise 4(D)

A. Subtract the following numbers.

Th H T O	Th H T O	Th H T O	Th H T O	Th H T O
6 1 1 6	8 1 2 1	3 6 8 2	5 4 4 2	1 1 0 4
– 8 8 4	– 4 8 6	– 7 5 1	– 6 8 3	– 2 6 9

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

Th	H	T	O
6	2	3	7
− 3	2	9	4

Th	H	T	O
7	2	0	3
− 4	1	5	8

Th	H	T	O
9	3	5	2
− 6	7	2	5

Th	H	T	O
5	8	3	6
− 2	4	7	4

Th	H	T	O
2	6	4	1
− 1	3	7	3

Th	H	T	O
7	0	1	4
− 2	3	5	6

Th	H	T	O
8	2	0	6
− 5	3	8	8

Th	H	T	O
3	7	4	1
− 1	6	8	3

Th	H	T	O
4	8	1	2
− 3	4	5	9

Th	H	T	O
9	5	0	2
− 5	6	9	2

B. Write the following numbers in columns and find their differences.

1. 7524 – 3832
2. 6203 – 4125
3. 5489 – 2643
4. 4271 – 1756
5. 3000 – 1475
6. 2923 – 1384
7. 5417 – 2254
8. 6735 – 3482
9. 8216 – 3782
10. 7534 – 2867

C. Find the difference between the given numbers.

1. 3621 and 5372
2. 6432 and 2515
3. 9475 and 5829
4. 2943 and 7564
5. 8020 and 3457
6. 7264 and 4938
7. 2715 and 3452
8. 5620 and 2765
9. 4352 and 1786
10. 8475 and 3809

Note : To find the difference between two numbers, subtract the smaller number from the bigger number.

Word Problems

Example 1 Out of 3750 watches in a shop, the shopkeeper sells 1273 watches. How many watches are left in the shop ?

Solution :

$$\begin{array}{lcr} & & {\scriptstyle 6\ 14\ 10} \\ \text{Total number of watches} & = & 3\ 7\ 5\ 0 \\ \text{Number of watches sold} & = & -\ 1\ 2\ 7\ 3 \\ \text{Watches remaining} & = & \mathbf{2\ 4\ 7\ 7} \end{array}$$

Thus, 2477 watches are left in the shop. **Ans.**

Example 2 There were 4603 hens in a poultry farm. Due to some disease, 1262 hens died. How many hens were left ?

Solution :

$$\begin{array}{lcr} \text{Total number of hens} & = & 4\ 6\ 0\ 3 \\ \text{Number of hens died} & = & -\ 1\ 2\ 6\ 2 \\ \text{Remaining hens} & = & \mathbf{3\ 3\ 4\ 1} \end{array}$$

Thus, 3341 hens were left. **Ans.**

Example 3 What should be subtracted from 7548 to get 2880 ?

Solution :

Th	H	T	O
	6	4	
~~7~~	~~5~~	4	8
− 4	6	6	8
2	8	8	0

How will you solve this question ? We are given two numbers, 7548 and 2880. We subtract 2880 from 7548.

We get the answer as 4668. Hence to get 2880, we have to subtract 4668 from 7548.

We verify our answer as follows. We subtract 4668 from 7548. We get 2880 as answer.

Th	H	T	O
	6	4	
~~7~~	~~5~~	4	8
− 2	8	8	0
4	6	6	8

Exercise 4(E)

1. 4300 cookies were purchased for distribution on children's day. If 3886 cookies were distributed, how many cookies were left ?
2. Mr. Paul had ₹ 7812. He spends ₹ 5350. How much money was left with him ?
3. John had 3215 marbles. He lost 1072 marbles. How many marbles are left with him ?
4. Megha chose a dress costing ₹ 2650. She was short of the required money by ₹ 1285. How much money she had with her ?
5. The population of a village is 8623. If 5162 are male members, find the number of females in the village.
6. What should be subtracted from 5000 to get 3475 ?

7 Ashish deposited ₹ 6200 in the bank and then withdrew ₹ 3550. How much money was left in the bank ?

8 The cost of an oven is ₹ 4315 and the cost of a washing machine is ₹ 9800. What is the difference in their costs ?

9 On a day 8975 people were expected to watch a cricket match. But only 7907 people came. How many people did not come for the match ?

10 The total population of a village is 8735. Of this, 6123 are below the age of 60. How many villagers are above 60 years of age ?

11 In a society there were 525 flats. Out of them, 95 were vacant. How many flats were occupied ?

12 In a school there were 700 students. Out of them, 307 were absent due to rain. How many students were present in the school ?

13 Sagar got ₹ 850 from his mother. He purchased a wallet worth ₹ 500. How much money does he have now ?

14 Find the difference between the place value and the face value of the digit 8 in the number 8042.

15 You are given 4 digits — 8, 4, 3, 5. Subtract the smallest number formed using these digits from the largest number formed by the same digits if repetition of digits is not allowed.

16 Reshu was born in 1992. How old is Reshu ?

Estimation

We can use estimation to find out the approximate value of the difference of two numbers. We follow the rules already discussed in the estimation of sums of numbers for approximation to the nearest 10, 100 or 1000.

Example 1 Estimate the following differneces to the nearest 10.
(i) 8215 – 3567 (ii) 7352 – 4389

Sollution : (i) 8215 – 3567
Rounding off to the nearest 10, we get —
8220 – 3570 = 4650
But by actual subtraction we get : 8215 – 3567 = 4648
Thus, estimation varies slightly from the real difference.

(ii) 7352 – 4389
Rounding off to the nearest 10, we get —
7350 – 4390 = 2960

But by actual subtraction we get : 7352 – 4389 = 2963
Thus, estimation varies from the actual difference.

Example 2 Estimate the following to the nearest 100.
(i) 5321 – 2971 (ii) 8762 – 6718

Sollution : (i) 5321 – 2971
Rounding off to the nearest 100, we get —
5300 – 3000 = 2300
Actual difference = (5321 – 2871) = 2450.

(ii) 8762 – 6718
Rounding off to the nearest 100, we get —
8800 – 6700 = 2100
Actual difference = (8762 – 6718) = 2044.

Example 3 Estimate the following to the nearest 1000.
(i) 8345 – 6578 (ii) 8932 – 6251

Sollution : (i) 8345 – 6578
Rounding off to the nearest 1000, we get —
8000 – 7000 = 1000
Actual difference = (8345 – 6578) = 1767.

(ii) 8932 – 6251
Rounding off to the nearest 1000, we get —
9000 – 6000 = 3000
But the actual difference = (8932 – 6251) = 2681.

Exercise 4(F)

1 Estimate the following by rounding off to the nearest 10.
(i) 7892 – 5685 (ii) 6545 – 3542 (iii) 8794 – 6457

2 Estimate the following by rounding off to the nearest 100.
(i) 3851 – 1873 (ii) 4562 – 1724 (iii) 8732 – 4267

3 Estimate the following numbers to the nearest 1000.
(i) 4560 – 3240 (ii) 3284 – 1832 (iii) 7532 – 5678

4 In a Panchayat election, the winning candidate obtained 8356 votes while the defeated candidate polled only 2183 votes. Estimate the difference in their votes to the nearest 100. Find also the actual difference in the votes polled for them.

5 School A had 3756 students while school B had 2356 students. Estimate the difference in the number of students in these two schools to the nearest 1000. Find if it is same as the actual difference of number of students of each school.

Subtraction of Five Digit Numbers

Example Subtract 45986 from 75843.

Tth	Th	H	T	O
6	4	7	3	13
~~7~~	~~5~~	~~8~~	~~4~~	~~3~~
− 4	5	9	8	6
2	9	8	5	7

METHOD :

Step 1 : Since 6 > 3, 6 ones cannot be subtracted from 3 ones. Borrow 1 ten from 4 tens. 4 tens become 3 tens and 3 ones become 13 ones (1 ten = 10 ones).
13 ones – 6 ones = 7 ones. Write 7 under ones' column.

Step 2 : Since 8 > 3, borrow 1 hundred from 8 hundreds.

8 hundreds become 7 hundreds and 3 tens become 13 tens.13 tens – 8 tens = 5 tens. Write 5 under tens' column.

Step 3 : Since 9 > 7, borrow 1 thousand from 5 thousands. 5 thousands become 4 thousands and 7 hundreds become 17 hundreds.

17 hundreds – 9 hundreds = 8 hundreds. Write 8 under hundreds' column.

Step 4 : Since 5 > 4, borrow 1 ten thousand from 7 ten thousands. 7 ten thousands become 6 ten thousands and 4 thousands become 14 thousands.

14 thousands – 5 thousands = 9 thousands. Write 9 under thousands' column.

Step 5 : 6 ten thousands – 4 ten thousands = 2 ten thousands. Write 2 under ten thousands' column. **Ans:** 29857

Exercise 4(G)

A. Subtract the following.

1

Tth	Th	H	T	O
3	6	4	3	8
−1	4	2	2	5

2

Tth	Th	H	T	O
4	8	7	5	2
−4	3	6	1	8

3

Tth	Th	H	T	O
5	6	3	4	3
−2	4	1	6	6

4

Tth	Th	H	T	O
6	4	2	8	9
−2	5	9	0	6

5

6	6	7	4	2
−6	4	6	7	4

6

7	8	1	8	3
−4	4	8	9	6

7

6	5	8	0	4
−3	8	8	0	6

8

3	1	3	9	4
−1	5	8	3	2

9
$$\begin{array}{r} 5\,0\,4\,3\,0 \\ -\,3\,4\,7\,6\,8 \\ \hline \end{array}$$

10
$$\begin{array}{r} 6\,0\,0\,0\,0 \\ -\,2\,8\,6\,4\,2 \\ \hline \end{array}$$

11
$$\begin{array}{r} 8\,0\,2\,0\,4 \\ -\,5\,3\,5\,7\,6 \\ \hline \end{array}$$

12
$$\begin{array}{r} 9\,0\,3\,2\,5 \\ -\,2\,6\,8\,4\,0 \\ \hline \end{array}$$

13
$$\begin{array}{r} 4\,1\,3\,2\,7 \\ -\,2\,5\,8\,4\,3 \\ \hline \end{array}$$

14
$$\begin{array}{r} 9\,3\,4\,4\,0 \\ -\,5\,4\,3\,6\,1 \\ \hline \end{array}$$

15
$$\begin{array}{r} 9\,4\,1\,9\,6 \\ -\,6\,4\,7\,3\,5 \\ \hline \end{array}$$

16
$$\begin{array}{r} 5\,7\,6\,3\,9 \\ -\,4\,2\,7\,0\,4 \\ \hline \end{array}$$

B. Do the following in your notebook.

1. Subtract 28,876 from 46,289
2. Take away 26,384 from 50,016
3. Subtract 16,986 from 52,040
4. Subtract 25,294 from 60,000
5. Take away 18,762 from 33,141
6. 93,421 minus 69,867

B. Relationship Between Addition and Subtraction

How can there be any relation between these two ?

Are they not opposites ?

Let us see how.

Addition and subtraction are related. Every addition statement has 2 subtraction facts.

- $5 + 3 = 8$ can be written as :
  $8 - 3 = 5$ OR $8 - 5 = 3$
- $27 + 23 = 50$ can also be represented as :
  $50 - 23 = 27$ OR $50 - 27 = 23$

Therefore, subtraction is an inverse process of addition. Let us look at some examples and see how these inter-related properties can be used.

Example 1 (a) Find the missing digits.

	Th	H	T	O
	4	3	9	6
+	2	1	0	3
	6	4	9	9

Start with the ones.

$9 - 6 = 3$

$\therefore$ The missing ones digit is 3.

Similarly in tens column, $9 - 0 = 9$.

$\therefore$ So, the missing tens digit is 9.

$3 + 1$ is simply 4. The missing hundreds digit is 4.

And the last missing digit in the thousands place is $6 - 4 = 2$

Verify your answer by adding 4396 and 2103. You should get the answer 6499.

	Th	H	T	O
	4	3	9	6
+	2	1	0	3
	6	4	9	9

(b) Find the missing digits.

	Th	H	T	O
	7	5	3	8
−	4	2	0	8
	3	3	3	0

Start with the ones.

$8 - 0 = 8$

$\therefore$ The missing ones digit is 8.

Similarly in tens column, $3 - 3 = 0$.

$\therefore$ So, the missing tens digit is 0.

$5 - 2$ is simply 3. The missing hundreds digit is 3.

And the last missing digit in the thousands place is $7 - 3 = 4$

Verify your answer by subtracting 4208 from 7538. You should get the answer 3330.

	Th	H	T	O
	7	5	3	8
−	4	2	0	8
	3	3	3	0

Example 2 What should be added to 3246 to get 7800 ?

	Th	H	T	O
		6	9	
		~~7~~	~~10~~	10
	7	8	0	0
−	3	2	4	6
	4	5	5	4

To find the answer, we will subtract 3246 from 7800.

Therefore, 4554 should be added to 3246 to get 7800.

Verify the answer by adding 3246 and 4554.

As the answer is the same as what is given in the question, our answer is correct.

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

Exercise 4(H)

1 Fill the appropriate digits in the boxes.

	Th	H	T	O
	□	8	6	□
−	2	□	3	2
	3	4	□	7

	Th	H	T	O
	□	5	2	□
+	3	4	□	3
	4	□	4	3

	Th	H	T	O
	□	8	6	□
−	3	□	2	7
	3	2	□	0

2 What should be added to 459 to get 911 ?

3 How much should be added to 2648 to get 4370 ?

4 The sum of two numbers is 1989. If one of them is 873, find the other number.

5 The sum of two numbers is 8536. If one of them is 3748, find the other number.

Sums Involving Both Addition and Subtraction

To solve sums involving both addition and subtraction, we have to follow the steps given below.

Step 1 : First, add all the given numbers with '+' sign before them.

Step 2 : Then, add all the given numbers with '–' sign before them.

Step 3 : Finally, subtract the sum obtained in step 2 from the sum obtained in step 1.

Note : The first number written without a sign (+) or (–) is always considered with a '+' sign.

Example Simplify 3278 – 5314 + 5721 – 1486.

Step 1 : Adding the numbers with '+' sign before them, we get

$$\begin{array}{r} 3278 \\ +\ 5721 \\ \hline 8999 \end{array}$$

Step 2 : Adding the numbers with '–' sign before them, we get

$$\begin{array}{r} {\scriptstyle 1\ 1\ \ } \\ 5314 \\ +\ 1486 \\ \hline 6800 \end{array}$$

Step 3 : Subtracting the sum obtained in step 2 from the sum obtained in step 1, we get

$$\begin{array}{r} 8999 \\ -\ 6800 \\ \hline 2199 \end{array}$$

Hence, 3278 – 5313 + 5721 – 1486 = **2199 Ans.**

Exercise 4(I)

1 Solve the following :

(a) 3704 – 7263 + 5402
(b) 1324 – 3796 + 4437 – 1251
(c) 4373 – 2431 – 4327 + 3124
(d) 5142 + 1210 – 3597
(e) 2351 – 6234 + 5321
(f) 4102 + 3231 – 2352 – 3223
(g) 5342 – 7783 + 4432 – 1269
(h) 7654 – 2639 – 1438 + 2301

2 Subtract 2694 from the sum of 1515 and 2123.

3 Subtract the sum of 2315 and 1208 from the sum of 3215 and 1006.

Word Problems Involving Both Addition and Subtraction

Example A school had 6242 students. At the end of the session, 1615 students left the school and 2317 new students took admission in the school. What is the present strength of the school ?

Solution :

Original strength = 6 2 4 2
Less number of students who left – 1 6 1 5
Strength of school after the leaving of some students = 4 6 2 7
Add new students admitted + 2 3 1 7
The present strength of the school is = 6 9 4 4 **Ans.**

Exercise 4(J)

1 A toy shop had 8336 toys. It sold 2572 toys in one month and 3136 toys in the second month. How many toys were left in the shop ?

2 A school had 8283 students. At the end of the session, 1427 students left the school and 2381 new students took admission in the school. What is the new strength of the school ?

3 A factory had 9315 workers. 1423 workers left the factory in one year and 612 workers left the factory in the second year. How many workers are still left in the factory ?

4 Ravi took a loan of ₹ 8000. After one month he paid ₹ 2470 and after two months he paid ₹ 3225. What amount of loan is still left ?

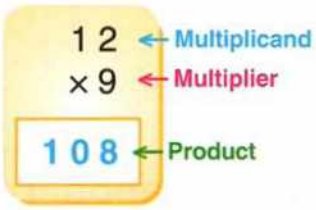
5 Pradeep had ₹ 8500. He purchased a watch worth ₹ 2640 and a pair of shoes worth ₹ 2250. How much money is left with Pradeep ?

6 In a village of 7567 people, 3217 are men, 2948 are women and the rest are children. Find the number of children in the village.

7 Subtract the sum of 2615 and 1735 from the sum of 4215 and 2575.

5 Multiplication

In multiplication, the number which is multiplied is known as **multiplicand**, the number by which it is multiplied, is known as **multiplier** and the answer or the result of multiplication is known as **product**.



Example

$12 \times 9 = 108$.
Here, 12 is the **multiplicand**, 9 is the **multiplier** and 108 is the **product**.

Revision

Multiplication means repeated addition.

Word Problems

Example

There are 4 wheels on each car. How many wheels are there on 4 cars ?
$4 \times 4 = 16$. Answer 16

Solve these word problems

1 A horse has 4 legs. How many legs will 6 horses have ?

_____ **Answer** _____

2 There are 3 blades on a fan. How many blades will be there on 9 such fans ?

_____ **Answer** _____

3 Each kid gets 5 toffees. How many toffees will 8 kids get ?

_____ **Answer** _____

Multiply the following.

1 +3
7 5
× 6
4 5 0

2
2 9
× 5

3
4 9
× 7

4
8 6
× 9

5
9 8
× 8

6
1 7 6
× 4

7
2 0 4
× 3

8
3 2 8
× 2

9
3 3 3
× 3

10
4 1 9
× 3

Multiplication Tables

Tables from 11 to 20

Table of 11

1	eleven is	11	1 × 11 = 11
2	elevens are	22	2 × 11 = 22
3	elevens are	33	3 × 11 = 33
4	elevens are	44	4 × 11 = 44
5	elevens are	55	5 × 11 = 55
6	elevens are	66	6 × 11 = 66
7	elevens are	77	7 × 11 = 77
8	elevens are	88	8 × 11 = 88
9	elevens are	99	9 × 11 = 99
10	elevens are	110	10 × 11 = 110

Table of 12

1	twelve is	12	1 × 12 = 12
2	twelves are	24	2 × 12 = 24
3	twelves are	36	3 × 12 = 36
4	twelves are	48	4 × 12 = 48
5	twelves are	60	5 × 12 = 60
6	twelves are	72	6 × 12 = 72
7	twelves are	84	7 × 12 = 84
8	twelves are	96	8 × 12 = 96
9	twelves are	108	9 × 12 = 108
10	twelves are	120	10 × 12 = 120

Table of 13

1	thirteen is	13	1 × 13 = 13
2	thirteens are	26	2 × 13 = 26
3	thirteens are	39	3 × 13 = 39
4	thirteens are	52	4 × 13 = 52
5	thirteens are	65	5 × 13 = 65
6	thirteens are	78	6 × 13 = 78
7	thirteens are	91	7 × 13 = 91
8	thirteens are	104	8 × 13 = 104
9	thirteens are	117	9 × 13 = 117
10	thirteens are	130	10 × 13 = 130

Table of 14

1	fourteen is	14	1 × 14 = 14
2	fourteens are	28	2 × 14 = 28
3	fourteens are	42	3 × 14 = 42
4	fourteens are	56	4 × 14 = 56
5	fourteens are	70	5 × 14 = 70
6	fourteens are	84	6 × 14 = 84
7	fourteens are	98	7 × 14 = 98
8	fourteens are	112	8 × 14 = 112
9	fourteens are	126	9 × 14 = 126
10	fourteens are	140	10 × 14 = 140

Table of 15

1	fifteen is	15	1 × 15 = 15
2	fifteens are	30	2 × 15 = 30
3	fifteens are	45	3 × 15 = 45
4	fifteens are	60	4 × 15 = 60
5	fifteens are	75	5 × 15 = 75
6	fifteens are	90	6 × 15 = 90
7	fifteens are	105	7 × 15 = 105
8	fifteens are	120	8 × 15 = 120
9	fifteens are	135	9 × 15 = 135
10	fifteens are	150	10 × 15 = 150

Table of 16

1	sixteen is	16	1 × 16 = 16
2	sixteens are	32	2 × 16 = 32
3	sixteens are	48	3 × 16 = 48
4	sixteens are	64	4 × 16 = 64
5	sixteens are	80	5 × 16 = 80
6	sixteens are	96	6 × 16 = 96
7	sixteens are	112	7 × 16 = 112
8	sixteens are	128	8 × 16 = 128
9	sixteens are	144	9 × 16 = 144
10	sixteens are	160	10 × 16 = 160

Table of 17

1	seventeen is	17	1 × 17 = 17
2	seventeens are	34	2 × 17 = 34
3	seventeens are	51	3 × 17 = 51
4	seventeens are	68	4 × 17 = 68
5	seventeens are	85	5 × 17 = 85
6	seventeens are	102	6 × 17 = 102
7	seventeens are	119	7 × 17 = 119
8	seventeens are	136	8 × 17 = 136
9	seventeens are	153	9 × 17 = 153
10	seventeens are	170	10 × 17 = 170

Table of 18

1	eighteen is	18	1 × 18 = 18
2	eighteens are	36	2 × 18 = 36
3	eighteens are	54	3 × 18 = 54
4	eighteens are	72	4 × 18 = 72
5	eighteens are	90	5 × 18 = 90
6	eighteens are	108	6 × 18 = 108
7	eighteens are	126	7 × 18 = 126
8	eighteens are	144	8 × 18 = 144
9	eighteens are	162	9 × 18 = 162
10	eighteens are	180	10 × 18 = 180

Table of 19

1	nineteen is	19	1 × 19 = 19
2	nineteens are	38	2 × 19 = 38
3	nineteens are	57	3 × 19 = 57
4	nineteens are	76	4 × 19 = 76
5	nineteens are	95	5 × 19 = 95
6	nineteens are	114	6 × 19 = 114
7	nineteens are	133	7 × 19 = 133
8	nineteens are	152	8 × 19 = 152
9	nineteens are	171	9 × 19 = 171
10	nineteens are	190	10 × 19 = 190

Table of 20

1	twenty is	20	1 × 20 = 20
2	twenties are	40	2 × 20 = 40
3	twenties are	60	3 × 20 = 60
4	twenties are	80	4 × 20 = 80
5	twenties are	100	5 × 20 = 100
6	twenties are	120	6 × 20 = 120
7	twenties are	140	7 × 20 = 140
8	twenties are	160	8 × 20 = 160
9	twenties are	180	9 × 20 = 180
10	twenties are	200	10 × 20 = 200

Multiplication

In previous classes, we have learnt multiplication involving 3-digit numbers.
Let us now learn how multiplication with 4-digit numbers are carried out.

Multiplication of a 4-digit Number by a 1-digit Number

Example Multiply 1592 by 6.

Th	H	T	O
	3	5	1
1	5	9	2
–			6
9	5	5	2

METHOD :

Step 1 : Multiply the ones.
2 ones × 6 = 12 ones = 1 ten + 2 ones.
Carry over 1 to the tens column and write 2 under ones column.

Step 2 : Multiply the tens.
9 tens × 6 = 54 tens.
Add the carry over. 54 tens + 1 (carry over) = 55 tens
= 5 hundreds + 5 tens
Carry 5 to the hundreds column and write 5 under tens column.

Step 3 : Multiply the hundreds.
5 hundreds × 6 = 30 hundreds.
Add the carry over.
30 hundreds + 5 (carry over) = 35 hundreds = 3 thousands + 5 hundreds.
Carry over 3 to the thousands column and write 5 under hundreds column.

Step 4 : Multiply the thousands.
1 thousand × 6 = 6 thousands. Add the carry over.
6 thousands + 3 (carry over) = 9 thousands. Write 9 under thousands column. **Ans.** 9552

Exercise 5(A)

Multiply the following.

Th	H	T	O
2	1	0	7
×			4

Th	H	T	O
1	0	6	8
×			3

Th	H	T	O
1	3	4	6
×			5

Th	H	T	O
1	3	5	7
×			4

Th	H	T	O
1	7	8	9
×			5

Th	H	T	O
1	9	8	9
×			9

Th	H	T	O
1	9	3	7
×			8

Th	H	T	O
2	4	8	9
×			3

Multiplication of Two 2-digit Numbers (without carry over)

Example : Multiply 13 with 12.

	T	O
	1	3
×	1	2
	2	6
1	3	0
1	5	6

Step 1 : Start with the ones. Multiply 3 with 2.
3 ones × 2 ones = 6 ones.
Write 6 under ones column.

Step 2 : Multiply 1 with 2.
1 ten × 2 ones = 2 tens.
Write 2 under tens column.

Step 3 : Now multiply 3 with 1.
3 ones × 1 ten = 3 tens.
Write 3 under tens column and write 0 under ones column.

Step 4 : Multiply 1 with 1.
1 ten × 1 ten = 1 hundred. (Recall the table of 10)
Write 1 under hundreds column.

Step 5 : Add 26 + 130 = 156. **Ans.** 156

Exercise 5(B)

Multiply the following in your notebook and write the answers in the space provided below.

T	O
1	0
× 1	6

T	O
1	7
× 1	1

T	O
1	1
× 1	5

T	O
1	2
× 1	4

T	O
1	4
× 1	1

T	O
2	3
× 1	3

T	O
3	3
× 3	2

T	O
4	1
× 1	2

T	O
4	2
× 2	2

T	O
3	2
× 2	1

T	O
3	2
× 1	1

T	O
3	3
× 1	3

T	O
1	8
× 1	1

T	O
1	3
× 2	3

T	O
2	1
× 1	3

Multiplication of a 3-digit Number by a 2-digit Number

Example : Multiply 458 with 21.

Th	H	T	O
	1	1	
	4	5	8
×		2	1
	4	5	8
+ 9	1	6	×
9	6	1	8

Step 1 : Start with the ones digit of the multiplier.

- Multiply 8 by 1 and write under ones column.
  8 ones × 1 = 8 ones
- Multiply 5 by 1 and write under tens column.
  5 tens × 1 = 5 tens
- Multiply 4 by 1 and write under hundreds column.
  4 hundreds × 1 = 4 hundreds.

Step 2 : Multiply with the tens digit of the multiplier.

8 ones × 2 tens = 16 tens = 1 hundred + 6 tens

Carry over 1 to the hundreds column and write 6 under tens column, leaving the ones column blank.

- Multiply 5 by 2.
  5 tens × 2 tens = 10 hundreds

Adding the carry over, we get

10 hundreds + 1 = 11 hundreds = 1 thousand + 1 hundred. We carry over 1 to the thousands column and write 1 under hundreds column.

- Multiply 4 by 2.
  4 hundreds × 2 tens = 8 thousands
  Add the carry over.
  8 + 1 = 9 thousands
  Write 9 under thousands column.

Step 3 : Adding the products of step 1 and step 2, we get : 458 + 9160 = 9618

Ans. 9618.

Exercise 5(C)

Multiply the following numbers in your notebook and write the answers in the space provided below.

H	T	O
3	9	9
×	1	8

H	T	O
4	8	9
×	1	9

H	T	O
5	7	6
×	1	7

H	T	O
7	5	3
×	1	3

H	T	O
8	2	6
×	1	2

H	T	O
2	4	8
×	3	4

H	T	O
1	5	8
×	2	8

H	T	O
3	7	5
×	2	3

H	T	O
4	1	8
×	2	2

H	T	O
6	7	8
×	1	4

H	T	O
3	1	8
×	1	7

H	T	O
1	4	3
×	2	7

H	T	O
4	3	2
×	3	2

H	T	O
5	6	2
×	1	6

H	T	O
7	3	1
×	2	3

Exercise 5(D)

Word problems

1. In a school, each child is required to pay a tuition fees of ₹ 945 per month. Find the total tuition fees paid by a student for 9 months.
2. A stove costs ₹ 1876. Find the cost of 5 such stoves.
3. 156 students from each school of a city are required to participate in a cultural event. How many students will participate in the event from 12 schools of the city ?
4. On Children's day, each child was given 15 chocolates. How many chocolates were given to 783 students ?
5. In a school there are 2345 students each in the primary, middle, senior and senior secondary sections respectively. How many students are there in all ?
6. The heart beats 72 times in a minute in a healthy person. How many times will it beat in an hour ?
7. A box contains 112 chocolates. How many chocolates will be there in 42 such boxes ?
8. A year has 365 days.

   (i) How many days are there in 16 years ? (ii) How many hours are there in a year ?
9. In a school, there are 8314 students. If each child is given 4 library books to read, how many books were distributed among the students ?
10. 15 pencils are to be distributed per student in a school. If there are 389 students in the school, how many pencils are required in all ?

Lattice Multiplication

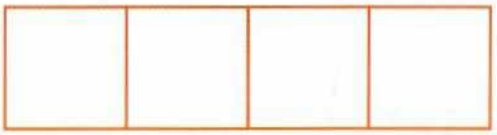
In the previous class, we learnt an interesting method of multiplication called **lattice multiplication**. Do you remember ?

Let us Recall

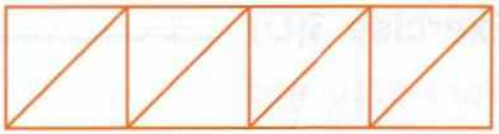
Procedure : In this method, a lattice or a grid of squares is made. Each square should have a diagonal. The numbers that are to be multiplied are written outside the lattice and their products are written inside it.

Example 1 Multiply 5693 by 7.

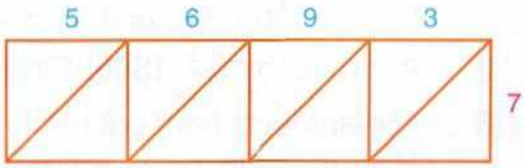
Step 1 : For the multiplication of a 4-digt number by a 1-digit number, draw four squares as shown.



Step 2 : Next, draw a diagonal in each square as shown.



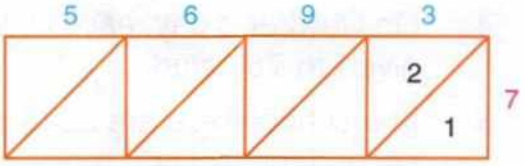
Step 3 : Write the multiplicand (5693) on the top and multiplier (7) on the right side of the lattice as shown.



Step 4 : Multiply 3 by 7.

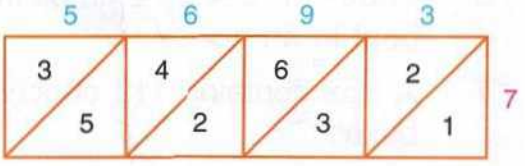
$3 \times 7 = 21$.

Write the tens digit above the diagonal and the ones digit below it as shown.



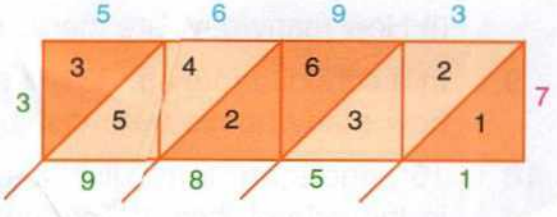
Step 5 : Similarly, multiply 9, 6 and 5 respectively by 7. Write the products as shown.

$9 \times 7 = 63$; $6 \times 7 = 42$ and $5 \times 7 = 35$.



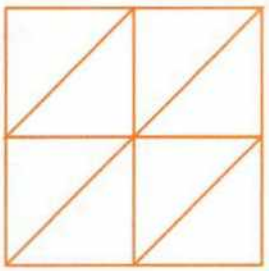
Step 6 : Add the numbers inside the lattice diagonally and write the sums outside the lattice as shown in green colour.

Step 7 : Starting from the left, write the sum obtained as the answer. **Ans.** 39851

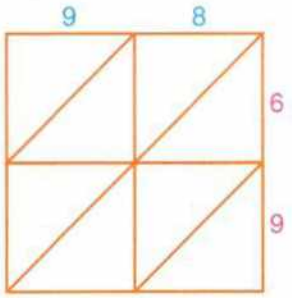


Now, let us multiply a two digit number by a 2-digit number.

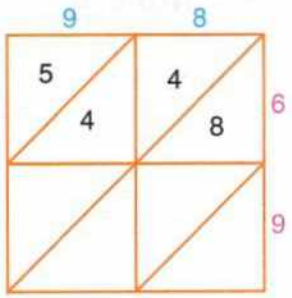
Example 2 Multiply 98 by 69.



Step 1 : For the multiplication of a 2-digit number by a 2-digit number, draw a lattice as shown.



Step 2 : Write the multiplicand (98) on the top and multiplier (69) on the right of the lattice as shown.



Step 3 : Multiply 8 by 6.

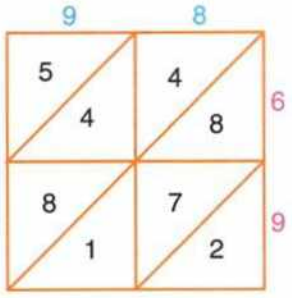
$8 \times 6 = 48$.

Write the tens digit above the diagonal and the ones digit below the diagonal.

Similarly, multiply 9 by 6.

$9 \times 6 = 54$

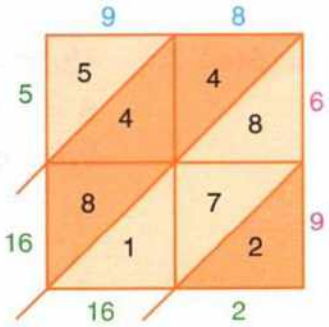
Write 5 above the diagonal and 4 below it.



Step 4 : Now multiply 8 by 9.

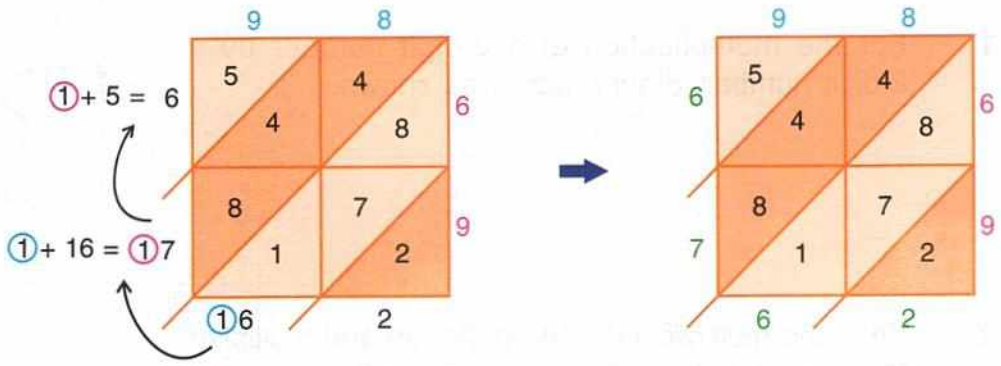
$8 \times 9 = 72$ and $9 \times 9 = 81$.

Write the products as shown.



Step 5 : Add the numbers diagonally and write outside the lattice as shown.

Step 6 : As the sum of digits of the second diagonal is 16, carry over the tens digit to the next diagonal as shown. We follow the same procedure for the third diagonal as well.



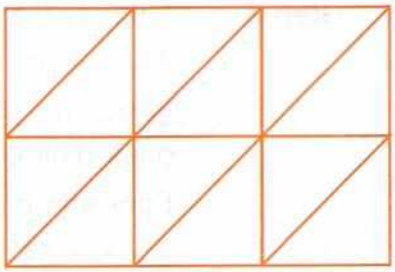
Step 7 : Starting from the left, write the sums obtained as the answer.

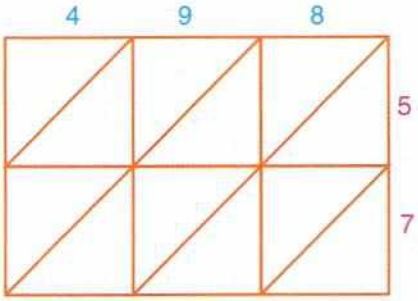
Ans. 6762

Example 3

Multiply 498 by 57.

Step 1 : For the multiplication of a 3-digit number by a 2-digit number, draw a lattice as shown.



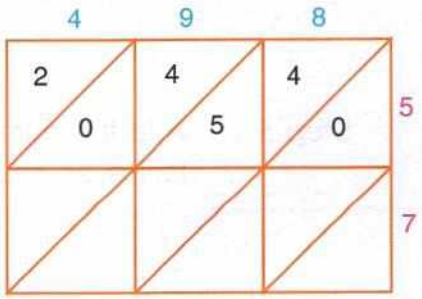


Step 2 : Write the multiplicand (498) on the top and multiplier (57) on the right of the lattice as shown.

Step 3 : Multiply 8, 9 and 4 respectively by 5.

$8 \times 5 = 40$, $9 \times 5 = 45$ and $4 \times 5 = 20$.

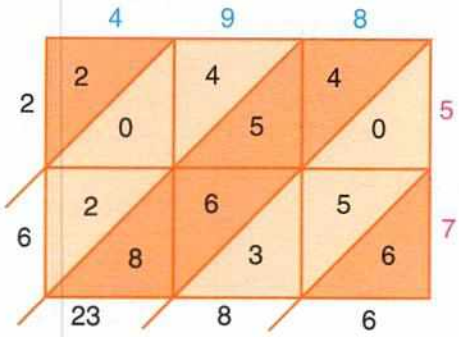
Write the products as shown.

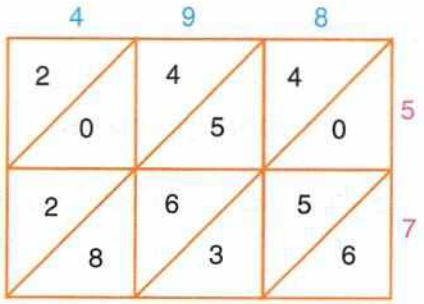


Step 4 : Now multiply 8, 9 and 4 respectively by 7.

$8 \times 7 = 56$, $9 \times 7 = 63$ and $4 \times 7 = 28$.

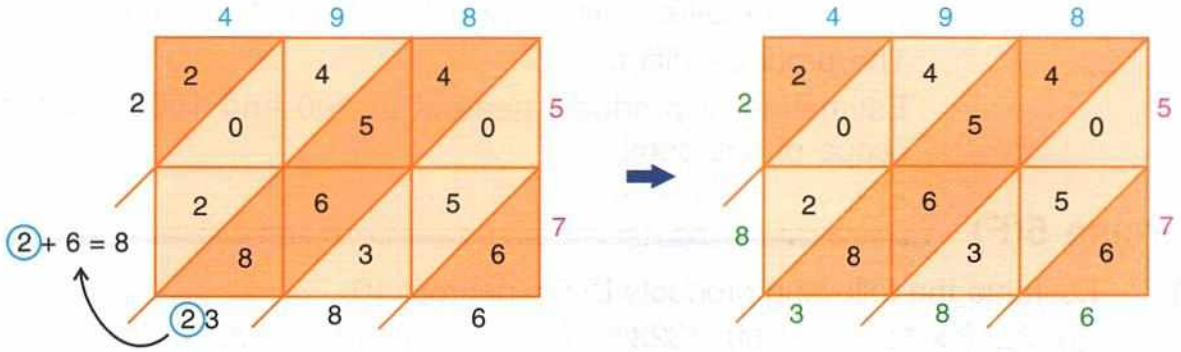
Write the products as shown.





Step 5 : Add the numbers diagonally and write outside the lattice as shown.

Step 6 : As the sum of digits of the second diagonal is 23, carry over the tens digit to the next diagonal as shown.



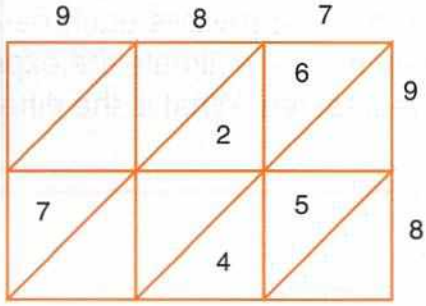
Step 7 : Starting from the lef, write the sums obtained as the answer.

Ans. 28386

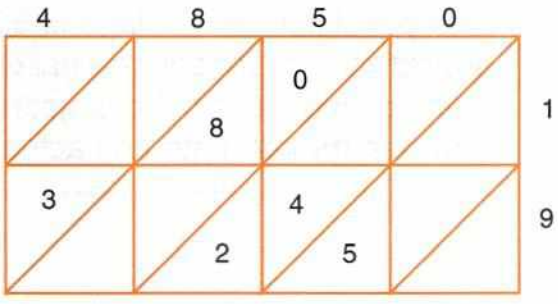
Exercise 5(E)

A. Fill in the missing numbers.

1



2



B. Multiply the following in your notebook using lattice multiplication.

1 8627×6

2 99×99

3 671×81

4 4265×23

5 6877×14

6 2593×15

7 3109×11

8 2092×27

9 3196×30

Estimation

By rounding off numbers to the nearest 10, 100 or 1000, we can estimate the product of two or more numbers.

Example Estimate the following products to the nearest 10.

(i) 838×24 (ii) 1234×15

Solution : (i) 838×24

Rounding off to the nearest 10, we get —

$840 \times 20 = 16800$

Actual product = 20112

(ii) 1234×15

Rounding off to the nearest 10, we get —

$1230 \times 20 = 24600$

By actual multliplication, we get : $1234 \times 15 = 18510$

The products differ.

Estimation of products nearest to 100 and 1000 is beyond the scope of this book.

Exercise 5(F)

1 Estimate the following products to the nearest 10.

(i) 3256×15 (ii) 4323×14 (iii) 4251×26

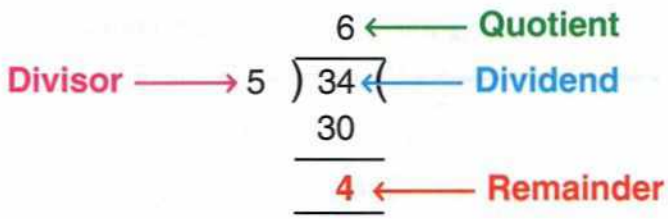
(iv) 4352×33 (v) 8321×17

2 In a school of 2783 students, each student has 18 notebooks. Estimate the total number of notebooks the students have to the nearest ten. Also calculate the actual number of notebooks and find the difference with the estimated number.

3 The population of a village is 8324. If the government provides each person a subsidy of ₹ 45 for educational purposes for every month, estimate the expenses of the govenrment in the project correct to the nearest ten. What is the difference between the estimate and actual expense ?

6 Division

- The number which is to be divided is called **dividend**.
- The number by which we divide is called **divisor**.
- The result in division after dividing dividend with divisor is called the **quotient**.
- In case a number is left after division, it is called **remainder**.



Let us learn division of 4-digit numbers

Example 1 Divide 9342 by 2.

```
  4671
2)9342(
 - 8
  13
 - 12
   14
 - 14
    02
  - 02
     0
```

Step 1 : Write the divisor and the dividend in the long division format.

Step 2 : Divide the thousands.
9 thousands ÷ 2 = 4 thousands + remainder 1 thousand

Step 3 : Divide the hundreds.
Bring down 3 hundreds to get 13 hundreds.
13 hundreds ÷ 2 = 6 hundreds + remainder 1 hundred.

Step 4 : Divide the tens.
Bring down 4 tens to get 14 tens.
14 tens ÷ 2 = 7 tens.

Step 5 : Divide the ones.
Bring down 2 ones
2 ones ÷ 2 = 1 one. Therefore, 9342 ÷ 2 = 4671
Quotient = **4671**, Remainder = **0** **Ans.**

Example 2 Divide 5729 by 7.

```
   818
7 ) 5729 (
  - 56↓
  ----
    12
   - 7↓
  ----
     59
   - 56
  ----
      3
  ----
```

Step 1 : Divide the thousands.
Since 5 < 7, it is indivisible by 7.

Step 2 : Divide the hundreds.
Consider the digits 5 and 7 together.
57 hundreds ÷ 7 = 8 hundreds + remainder 1 hundred.

Step 3 : Divide the tens.
Bring down 2 tens to get 12 tens.
12 tens ÷ 7 = 1 ten + remainder 5 tens.

Step 4 : Divide the ones.
Bring down 9 ones to get 59 ones.
59 ones ÷ 7 = 8 ones + remainder 3 ones.
Quotient = 818, Remainder = 3 **Ans.**

Exercise 6(A)

Solve by long division method in your note book.

1	1253	÷	7	**2**	6488	÷	8	**3**	3789	÷	9
4	2952	÷	8	**5**	2619	÷	9	**7**	3630	÷	8
7	1275	÷	5	**8**	9107	÷	7	**9**	1248	÷	8
10	3664	÷	8	**11**	6552	÷	9	**12**	8151	÷	9
13	6252	÷	8	**14**	5301	÷	9	**15**	3132	÷	7

Division by a 2-digit Number

Example 1 Divide 396 by 12.

```
   33
12 ) 396 (
  - 36↓
  ----
    36
  - 36
  ----
     0
  ----
```

Step 1 : Write the divisor and the dividend in the long division format.

Step 2 : Divide the hundreds.
Since, 3 < 12, we will consider the hundreds and tens digits together. We have 39 tens.

Step 3 : Divide the tens.
39 tens ÷ 12 = 3 tens + remainder 3 tens. We take 3 tens to ones place

Step 4 : Divide the ones.
Bring down 6 ones to get 36 ones.
36 ones ÷ 12 = 3 ones. Therefore, 396 ÷ 12 = 33
Quotient = 33, Remainder = 0 **Ans.**

Example 2 Divide 8679 by 25.

```
      347
25 ) 8679 (
   - 75↓
   ------
     117
   - 100↓
   ------
      179
    - 175
    -----
        4
```

Step 1 : Since, 8 < 25, consider the thousands and hundreds digits together.

Step 2 : Divide the hundreds.

$25 \times 3 = 75$

$\therefore$ 86 hundreds $\div$ 25 = 3 hundreds + remainder 11 hundreds

Take 11 hundreds to tens place.

Step 3 : Divide the tens.

Bring down 7 tens to get 117 tens.

$25 \times 4 = 100$

117 tens $\div$ 25 = 4 tens + remainder 17 tens.

Bring 17 tens to ones place.

Step 4 : Divide the ones.

Bring down 9 ones to get 179 ones.

$25 \times 7 = 175$

$\therefore$ 179 ones $\div$ 25 = 7 ones + remainder 4 ones.

So, 8679 $\div$ 25 = 347 with 4 as remainder.

Quotient = **347**, Remainder = **4** **Ans.**

Exercise 6(B)

A. Divide the following in your notebook.

1	420	$\div$	12	**2**	870	$\div$	24	**3**	865	$\div$	19
4	972	$\div$	18	**5**	981	$\div$	29	**7**	650	$\div$	20
7	963	$\div$	13	**8**	675	$\div$	32	**9**	543	$\div$	15
10	952	$\div$	14	**11**	577	$\div$	23	**12**	742	$\div$	22
13	3006	$\div$	14	**14**	4362	$\div$	18	**15**	5268	$\div$	28
16	2080	$\div$	26	**17**	9664	$\div$	19	**18**	8339	$\div$	32
19	6465	$\div$	35	**20**	7981	$\div$	23	**21**	8496	$\div$	16

B. Word problems.

1 The total train fare of 17 persons was ₹ 6494. What was the fare of one person?

2 How many 20-rupee notes Rahim can get for ₹ 8160?

3 How many hours are there in 4800 minutes?

4 The product of two numbers is 1425. If one number is 25, what is the other number?

5 A factory produces 4704 bulbs in a day (24 hours). How many bulbs are produced in an hour?

6 3990 books are arranged on 15 shelves. If equal number of books are kept on each shelf, how many books are there on each shelf?

7 770 students of a school went for picnic by buses. If a bus carries 55 students, how many buses were used?

8 In a garden, 2058 trees are planted in 42 rows. If each row has the same number of trees, how many trees are there in one row ?

9 For a drill display, 2589 students were arranged in rows of 35. How many such rows were formed and how many students were left out ?

10 How many groups of 55 students can be formed from 8910 students of a school ? Are there any students left out ?

7 Geometry

Curved Line

A line which is bent or continuously bending is called a **curved line**.

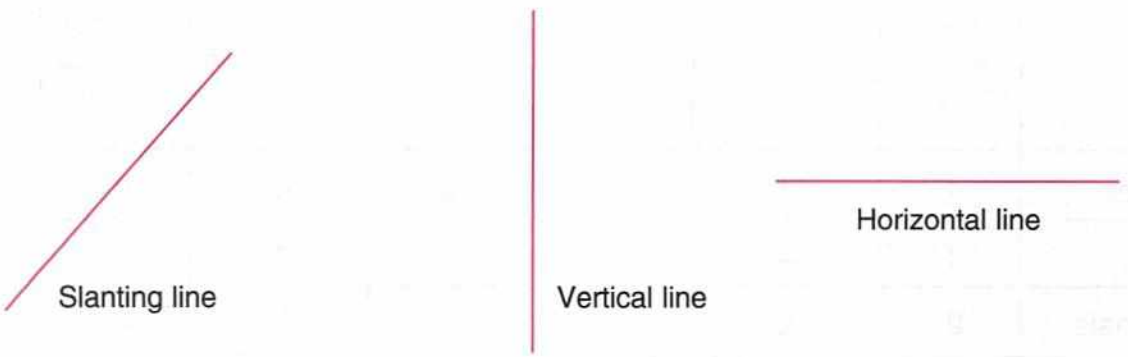
Curved lines can be drawn freehand or using a compass from your geometry box. Such lines can also be drawn using objects with round edges like a bowl, a bangle, etc.

Straight Line

A line drawn from any point travelling in one direction is called a **straight line**.

Normally, a straight line is the shortest distance between two points.

Some More Straight Lines



We use a ruler to draw straight lines. We can also draw straight lines using objects with straight edges like a book, a pencil box, etc.

2-D Shapes

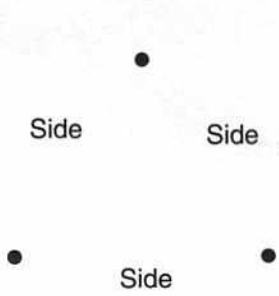
2-D Shapes have only length and width.

Terms related to 2-D shapes :

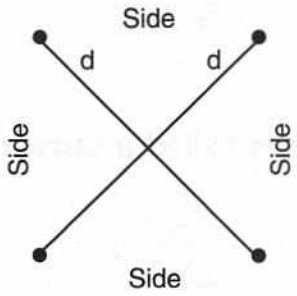
Corner or vertex : It is the point where two straight lines meet.

Side : It is a straight line joining two adjacent corners.

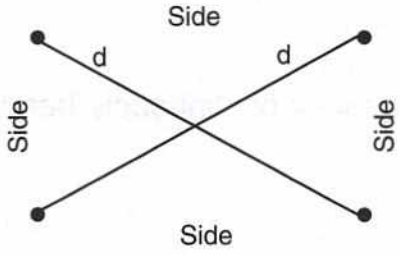
Diagonal : It is a straight line joining two opposite or non-adjacent corners.



Triangle



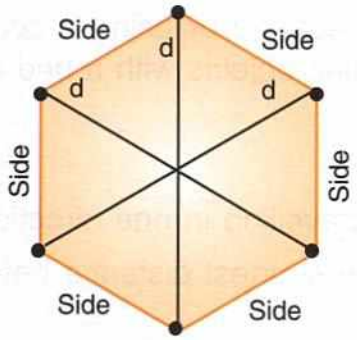
Square



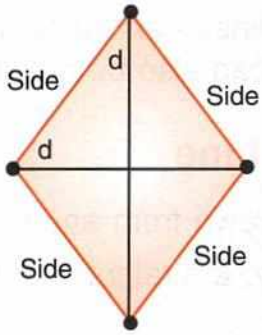
Rectangle

Circle

Oval



Hexagon



Rhombus

Shapes	Square	Rectangle	Rhombus 	Triangle	Hexagon 	Circle 	Oval 
Vertices	4	4	4	3	6	0	0
Sides	4	4	4	3	6	0	0
Diagonals	2	2	2	0	3	0	0
Straight lines	4	4	4	3	6	0	0
Curved lines	0	0	0	0	0	1	1

3-D Shapes or Solids

3-D Shapes : These are shapes having length, width and height.

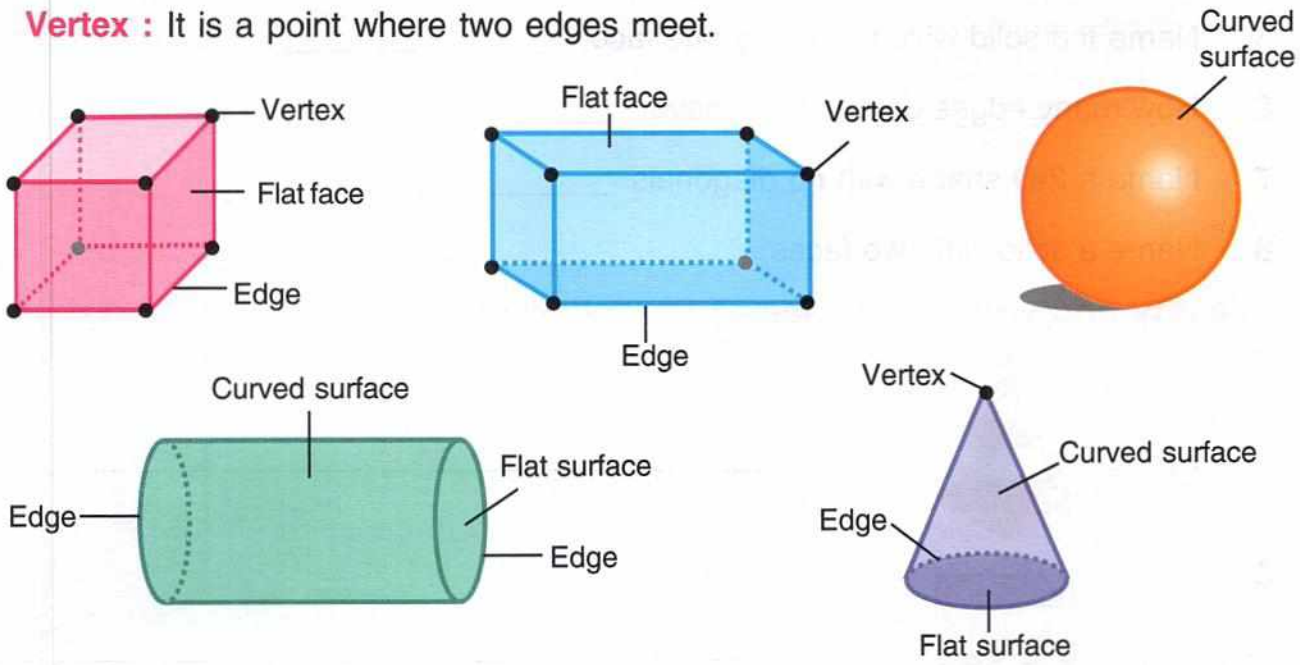
Take a single sheet from your notebook. It has only length and width. But consider your notebook. It has length, width and thickness (height). The thin paper represents a 2-D shape while the notebook is an example of a 3-D shape.

Terms related to 3-D shapes :

Face or Surface : It is the outer part of an object which we can see and touch.

Edge : It is the side where the two faces meet.

Vertex : It is a point where two edges meet.



Shapes	Cube	Cuboid	Sphere	Cylinder	Cone
Vertices	8	8	0	0	1
Straight edges	12	12	0	0	0
Curved edges	0	0	0	2	1
Flat faces	6	6	0	2	1
Curved faces	0	0	1	1	1

Exercise 7(A)

A. Answer the following

1 Name of figures with only length and width. _____ .

2 Name a shape with 3 sides. _____ .

3 Name the solid which has three faces. _____ .

4 Name the solid with one vertex. _____ .

5 Name the solid which has only one face. _____ .

6 How many edges does a cube have ? _____

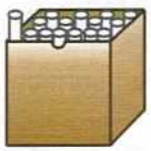
7 Name a 2-D shape with no diagonals. _____

8 Name a solid with two faces. _____ .

B. Identify and write the shape of the following objects.

1 

_____

2 

_____

3 

_____

4 

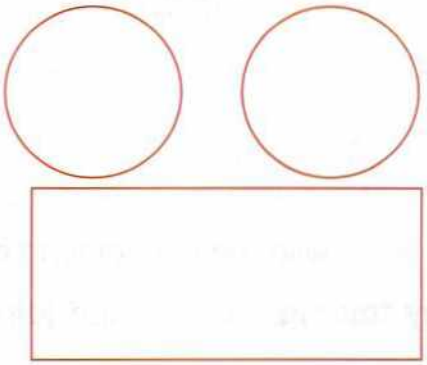
_____

5 

_____

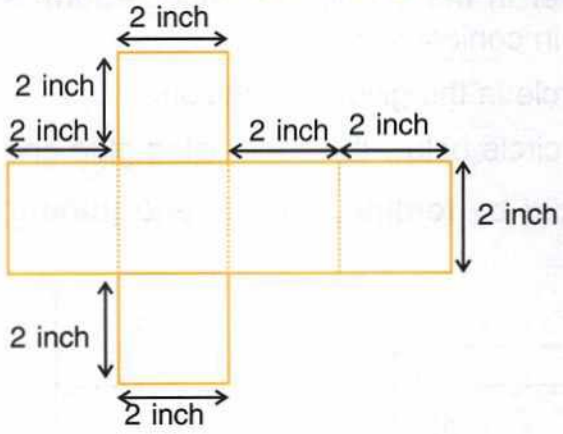
Paper Folding

- **Make a cylinder by folding, cutting and joining the edges of the following.**



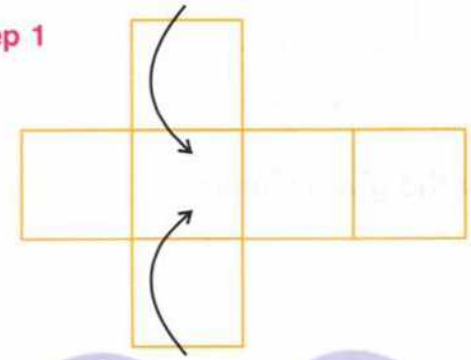
1. Cut a rectangular paper from a sheet of paper.
2. Fold the rectangular sheet along its length and paste it with glue.
3. From another sheet of paper cut two circles such that they have the diameter of the cylinder so formed.
3. Stick one circle on top and the other at the bottom of the folded rectangular sheet.
4. You will get a cylinder.

- **Make a cube by folding, cutting and joining the edge of the following.**

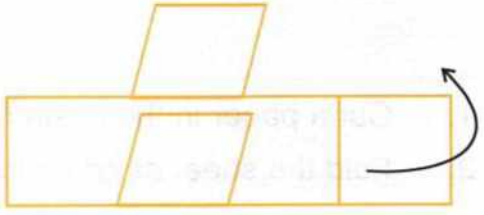


1. Cut a paper in the given form with the given dimensions.
2. Fold the sheet as given in the figure.

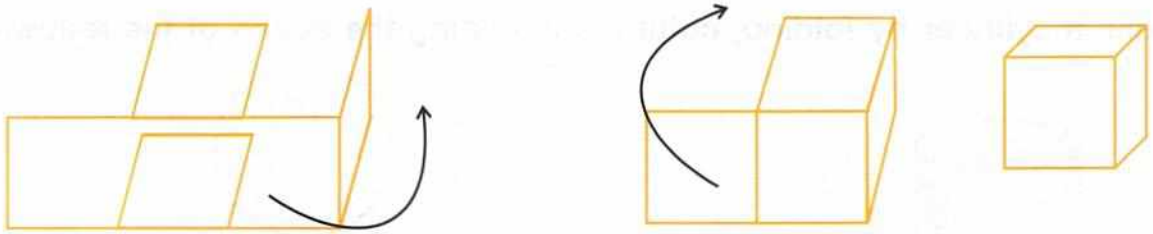
Step 1



Step 2

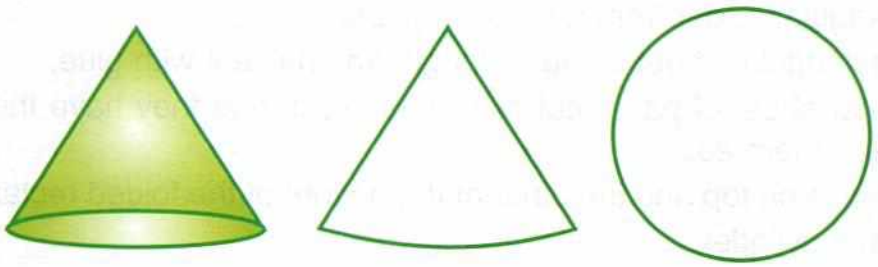


Step 3 Step 4 Step 5



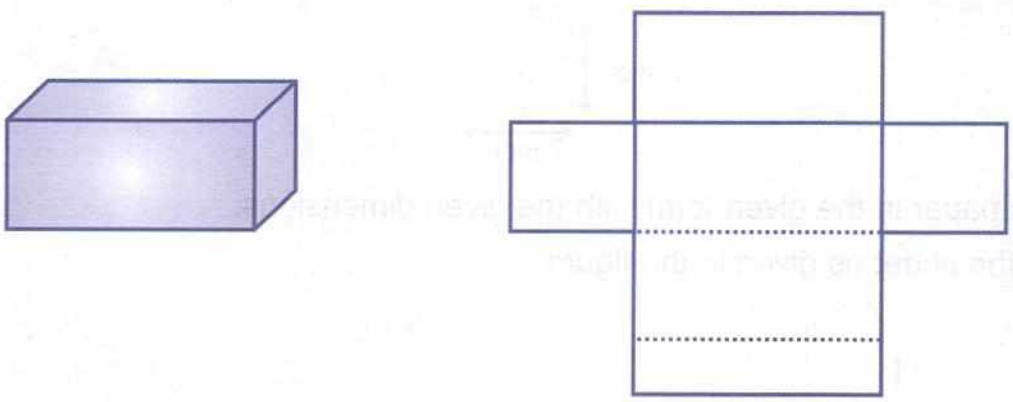
3. Paste all the sides with the help of tape or glue.

- **Make a cone by folding, cutting and joining the edge of the following.**



1. Cut a paper in the shape of a triangle form slightly curved at the bottom. Fold the paper in conical form.
2. Cut the circle in the given dimension.
3. Paste the circle below the cone using glue and tape.

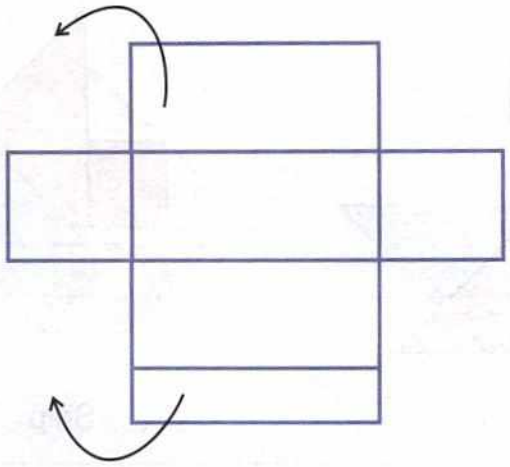
- **Make a cuboid by folding, cutting and joining the edge of the following.**



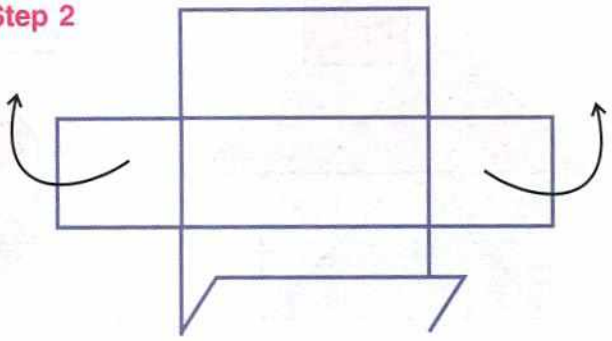
1. Cut a paper in the given form and as per the given dimensions.
2. Fold the sheet as given in the figure.

3. Paste all the sides using tape or glue.

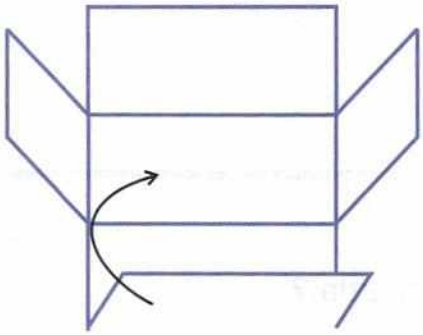
Step 1



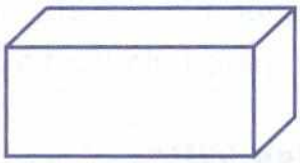
Step 2



Step 3

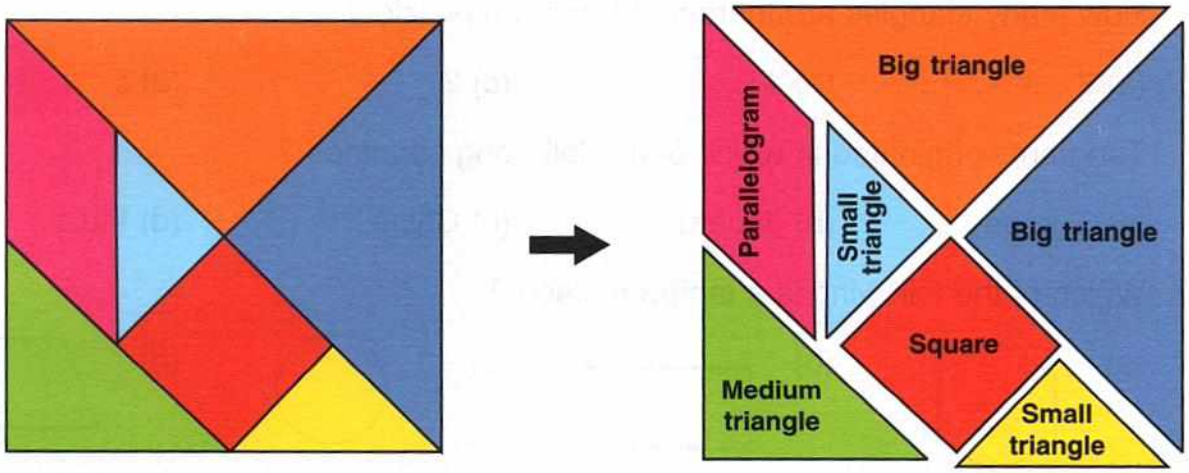


Step 4

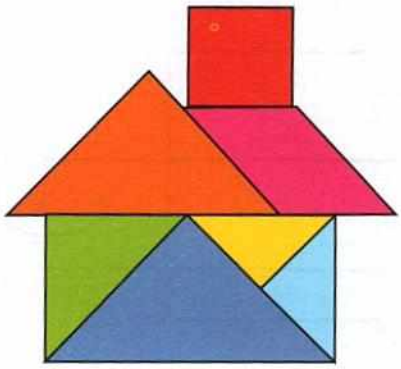


Tangrams

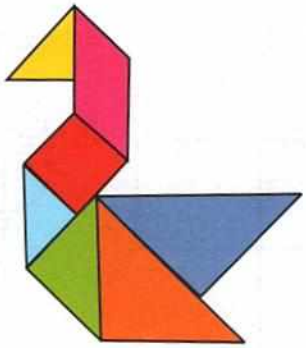
Tangram is a Chinese puzzle consisting of seven flat pieces, called tans, which can be put together in different combinations to form various designs of objects, birds, animals, alphabets, etc. The objective of the puzzle is to form a specific design using all seven pieces, which must touch each other but not overlap.



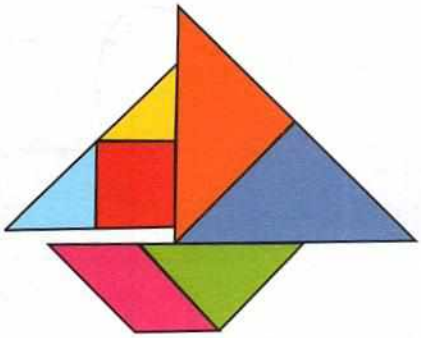
- **Let us see some shapes made by tangrams.**



House



Swan



Ship

Can you make the following designs using tangrams ?
(a) Letter 'E' (b) Cat (c) Fish
Hint : Take help from the internet.

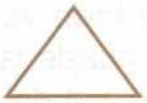
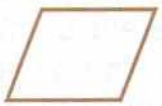
Exercise 7(B)

Answer the following questions.

1 How many pieces are there in a tangram puzzle ?

(a) 9 (b) 7 (c) 6 (d) 8

2 Which of the following is not a tangram piece.

(a)  (b)  (c)  (d) 

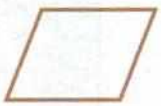
3 How many triangles are there in a trangram puzzle ?

(a) 7 (b) 4 (c) 2 (d) 5

4 Tangrams originated in which of the following countries ?

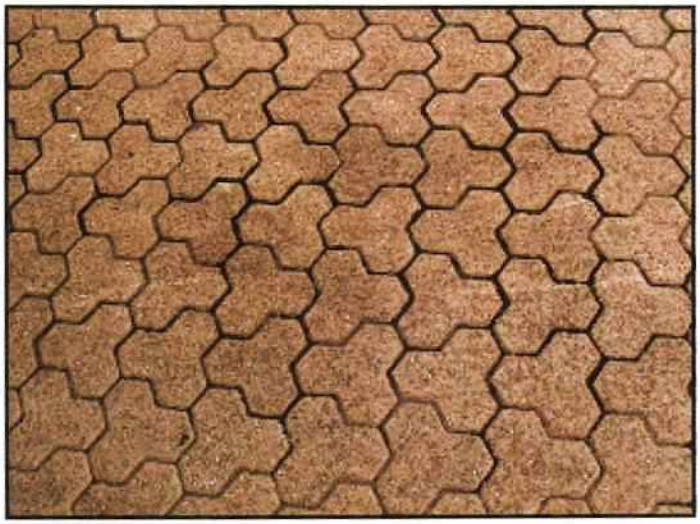
(a) Europe (b) Japan (c) China (d) India

5 Which of the following is a tangram piece ?

(a)  (b)  (c)  (d) 

Tessellation

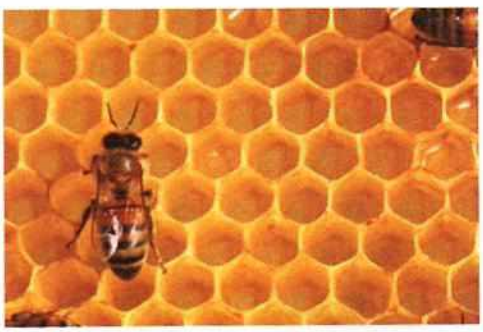
Look at the pattern given below. What do you notice about the pattern ?



The pattern is formed by repeating tiles of the same shape and size. Also none of the tiles overlap each other. Such a pattern is known as **tessellation** or **tiling**.

Let us look at some more examples of tessellation in real life.

Rugs, carpets and towels



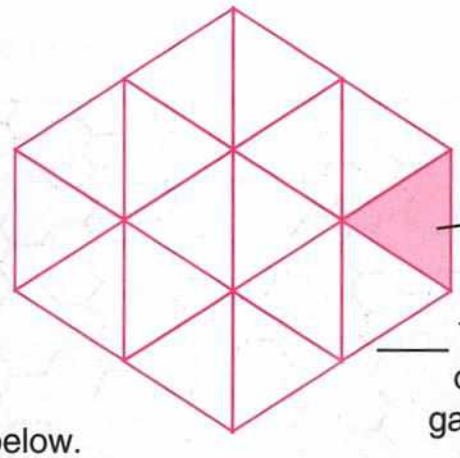
Honeycomb

Window panes

Decorative paper

Identitying Tessellations

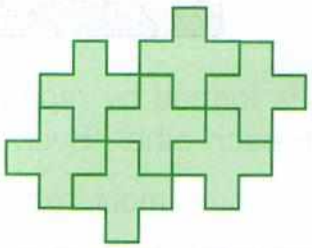
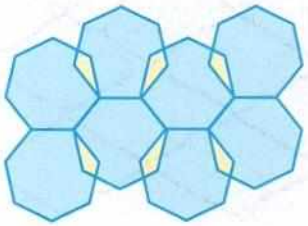
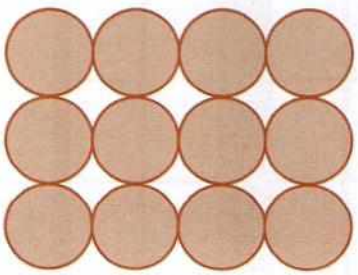
Tessellations can go on for ever. You can extend any existing tessellation by adding more of the unit shape to it in any direction.



This pattern is formed by repeating this unit shape.

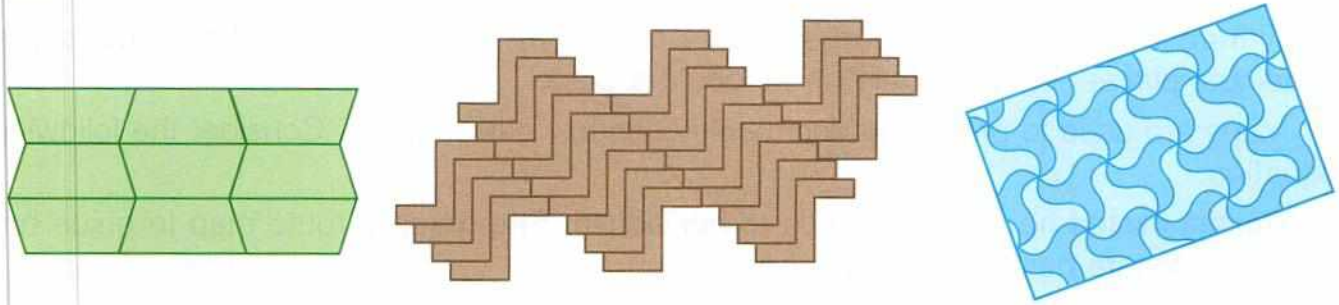
The unit shape does not overlap and there are no gaps between the shapes.

Look at the table given below.

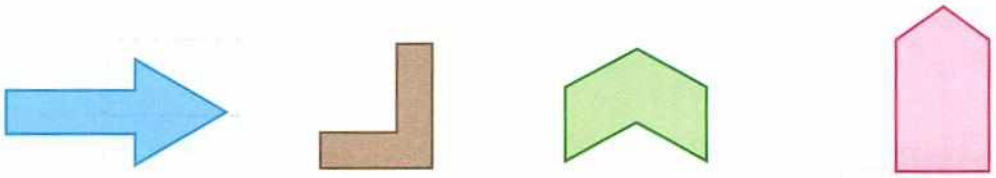
Unit shapes	Patterns
 This shape can tessellate.	 This is a tessellation.
 This shape cannot tessellate.	 This is not a tessellation because the shapes overlap.
 This shape cannot tessellate.	 This is not a tessellation because there are gaps present.

Exercise 7(C)

1 Identify the unit shape in the following tessellations.

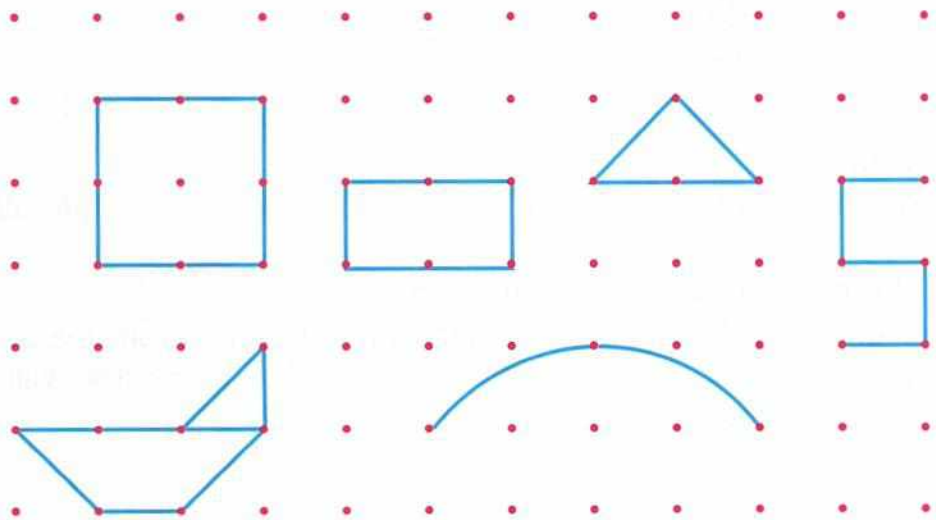


2 Create a tessellation using each of the shapes given below.



Dot Grid

A dot grid is an arrangement of dots wherein each dot lies at a definite distance from the adjacent dot horizontally and vertically.



Joining the dots of the grid we can draw straight lines, curved lines, 2-D shapes and different figures/designs.

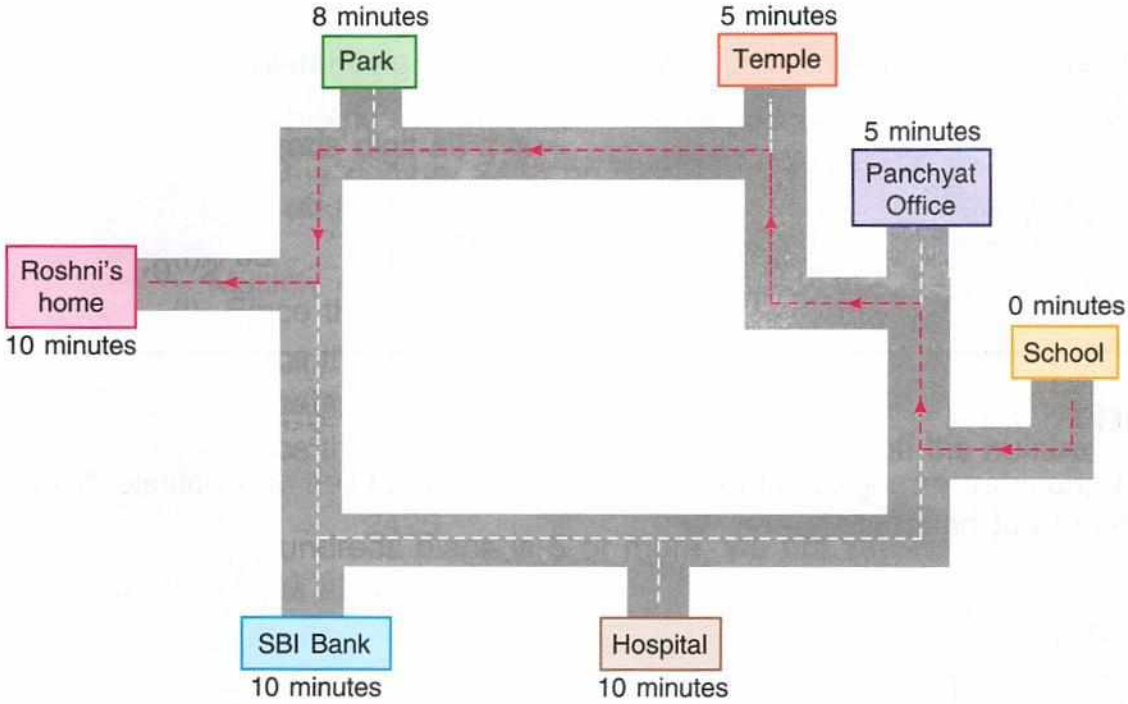
Map Reading

A map tells us the location of an object or a place in relation to other objects or places.

A map uses directions and symbols for important landmarks. Landmarks are buildings, places, etc. that help us to locate a place.

Maps are used to provide adequate direction to locate a place. Consider the following situation.

Roshni invited her school friends to her house. She made a route map to guide her friends to locate her home from school.



Answer the following :

1. Name the landmarks that Roshni has used to explain the direction from her school.
2. Which is the nearest landmark from her home ?
3. Which are the landmarks to cross if her friends turn left from the school instead of taking a right turn as suggested by Roshni ? How much time will it take them to reach Roshni's home ?

Solution :

1. The landmarks used are : Park, temple and panchayat office.
2. Park
3. They are : Hospital and SBI bank. It will then take 10 + 10 + 10 *i.e.*, 30 minutes to reach Roshni's home.

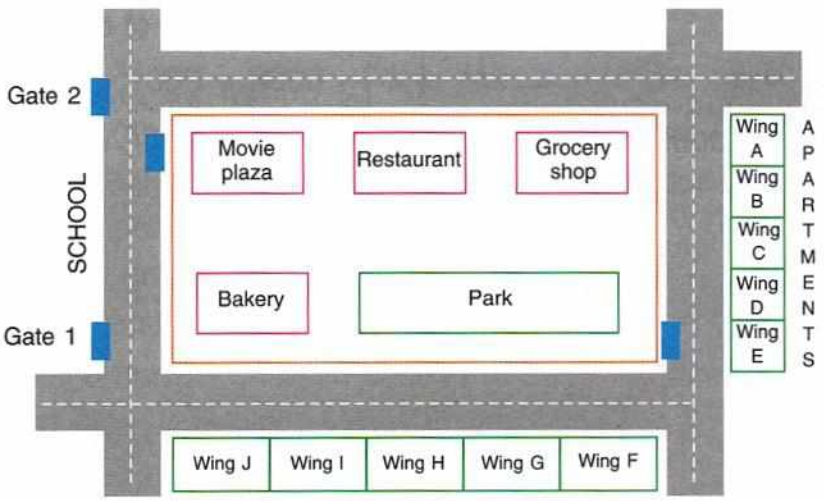
Exercise 7(D)

1 In the given dot grid, draw the following :

(a) a rectangle (b) a square (c) a straight line

(d) a triangle (e) letter S (f) letter T

2 Study the map given alongside and answer the following questions.



(a) Apartments of which wing are the closest to the school ?

(b) Rahul lives in wing A of the apartments. Mark the shortest route for him if he wants to go to the school ?

(c) Which landmark will be the nearest to Rahul ?

(d) Vinaya lives in wing J of the apartments. Which is the landmark that she should cross if she wants to enter the school from gate 1 ?

3 Draw a simple map showing directions to go to your home from your school.

8 Measurements

Measurement of Length

Length of an object is the distance between the two ends of that object.

So far we have learnt how to use non-standard and arbitrary units for measuring length. But both these methods of measurement are not uniform and can give varying results. Hence, a more uniform method of measurement is preferred which involves the use of fixed lengths to measure any length.

Fixed units for measuring any quantity are known as **standard units** as they do not change with respect to place or time.

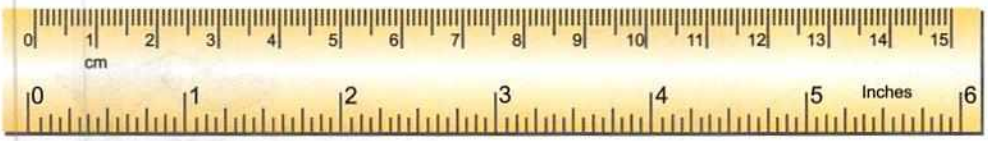
Standard units of length : Standard unit of measurement of length is **metre**. Symbol of metre is **'m'**.

A metre scale is a measuring device whose length is **1 metre**.

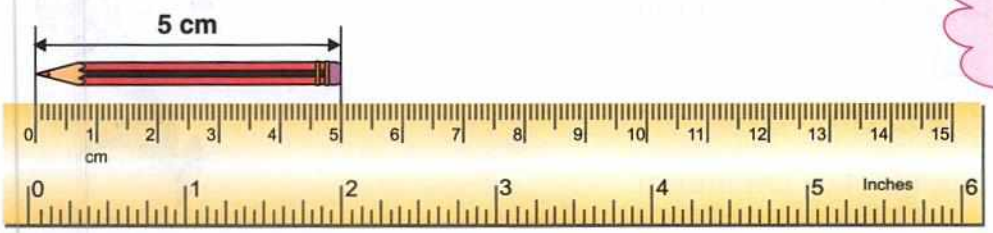
A metre scale is divided into 100 equal parts. The length of each of these parts is called **1 centimetre**. Symbol of centimetre is **cm**.

1 metre = 100 centimetres

Metre is the standard unit of length.



We use "m" for metres and "cm" for centimetres.



Understanding Smaller Units of Length

The scale in your geometry box is 15 cm long. It is divided into 15 equal parts. Each part is 1 cm long.

Each centimetre is divided into 10 equal parts. Each small division is called millimetre. Millimetre is written as mm.

1 centimetre = 10 millimetres

We use 'mm' for milimetres.

Conversion of Metres into Centimetres

To convert metres into centimetres, we multiply the number of metres by 100.

Example 1 Change 4 m into cm.

Solution :

$4 \text{ m} = 4 \times 100 \text{ cm} = 400 \text{ cm}$

Example 2 Change 2 m 30 cm into cm.

Solution :

$2 \text{ m } 30 \text{ cm} = 2 \times 100 \text{ cm} + 30 \text{ cm}$

$= 200 \text{ cm} + 30 \text{ cm} = 230 \text{ cm}$

Conversion of Centimetres into Metres

To convert centimetres into metres, we divide the number of centimetres by 100. The quotient gives the metres and the remainder gives the centimetres.

Example 3 Change 360 cm into m.

Solution :

We know that when a number is divided by 100, the number formed by ones and tens digits gives the remainder and the remaining digits give the quotient.

$360 \div 100$ → Quotient = 3, Remainder = 60

Thus, 360 cm = 3 m 60 cm.

Example 4 Change 200 cm into m.

Solution :

$200 \div 100 = 2$

$\therefore$ 200 cm = 2 m

Example 5 Change 420 cm into m.

Solution :

$420 \div 100 = 4{\cdot}20$

$\therefore$ 420 cm = 4 m 20 cm = 4·20 m

Exercise 8(A)

A. Convert the following into centimetres.

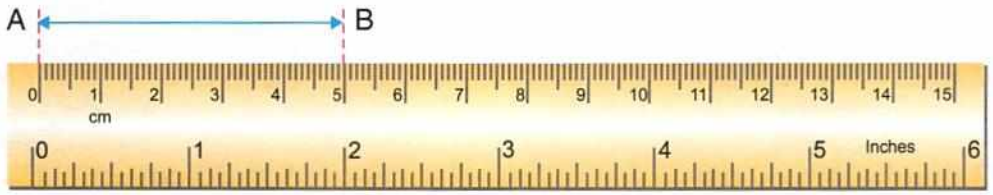
1. 4 m = ☁ cm
2. 6·5 m = ☁ cm
3. 25 m = ☁ cm
4. 34 m = ☁ cm
5. 37 m = ☁ cm
6. 64 m = ☁ cm
7. 83 m = ☁ cm
8. 1 m 30 cm = ☁ cm
9. 6 m 28 cm = ☁ cm
10. 14 m 30 cm = ☁ cm
11. 23 m 5 cm = ☁ cm
12. 32 m 16 cm = ☁ cm
13. 64 m 36 cm = ☁ cm
14. 57 m 43 cm = ☁ cm
15. 27 m 85 cm = ☁ cm
16. 43 m 47 cm = ☁ cm

B. Convert the following into metres.

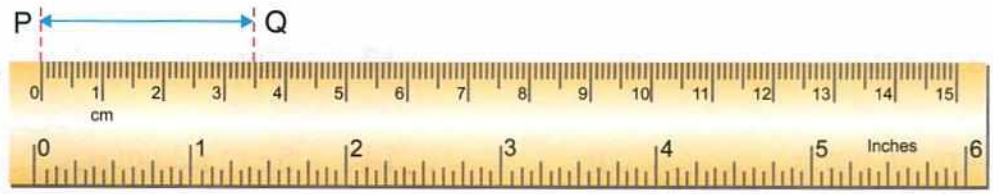
1. 400 cm = ☁ m
2. 600 cm = ☁ m
3. 500 cm = ☁ m
4. 380 cm = ☁ m
5. 250 cm = ☁ m
6. 796 cm = ☁ m
7. 552 m = ☁ m
8. 953 cm = ☁ m
9. 876 cm = ☁ m
10. 1600 cm = ☁ m
11. 800 cm = ☁ m
12. 2468 cm = ☁ m
13. 1234 cm = ☁ m
14. 200 cm = ☁ m
15. 280 cm = ☁ m
16. 700 cm = ☁ m

Measuring a Line Segment

To measure the length of a given line segment using a 15 cm scale, we place the scale along the line segment such that one end of the given line segment is at the zero mark of the scale. The number on the scale in front of the other end of the line segment gives the length of the given line segment.



The length of line segment AB = 5 cm.



The length of the line segment PQ = 3 cm 5 mm.

Drawing a Line Segment of Given Length

Example 1 Draw a line segment PQ whose length is 7 cm.

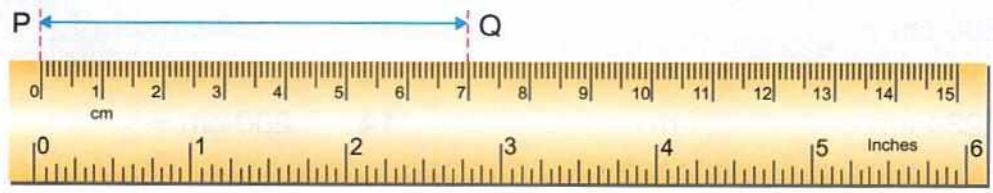
Solution : To draw PQ, the following steps are followed.

Step 1 : Place the scale on a paper.

Step 2 : Mark a point P against the zero mark of the scale.

Step 3 : Mark another point Q against 7 cm mark of the scale.

Step 4 : Keep your pencil at the point P and move it along the edge of the ruler keeping the ruler pressed till your pencil reaches the point Q.



Example 2 Draw a line segment AB which is 4 cm 5 mm long.

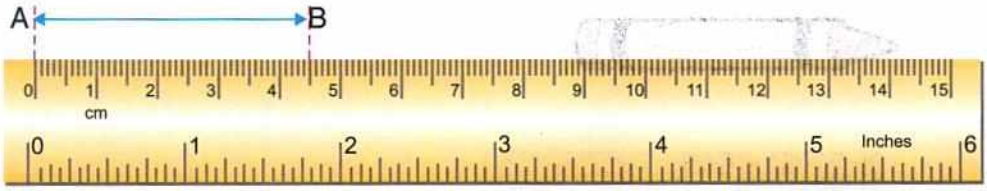
Solution : To draw AB, the following steps are followed.

Step 1 : Place the scale on a paper.

Step 2 : Mark a point A against the zero mark of the scale.

Step 3 : Take 5 small divisions after 4 cm mark on the scale and mark point B against the fifth division after 4 cm.

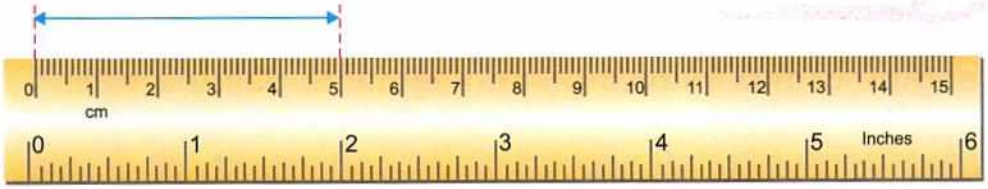
Step 4 : Keep your pencil at point A and move it along the edge of the ruler keeping the ruler pressed till your pencil reaches the point B.



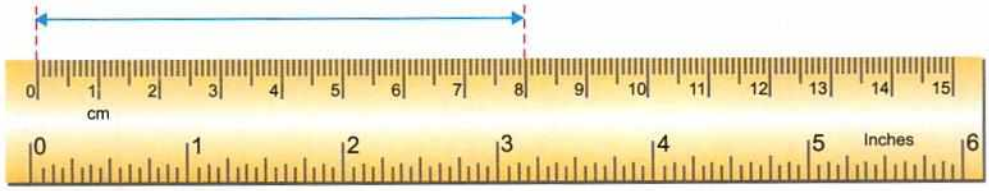
Exercise 8(B)

A. Write the length of the following line segments.

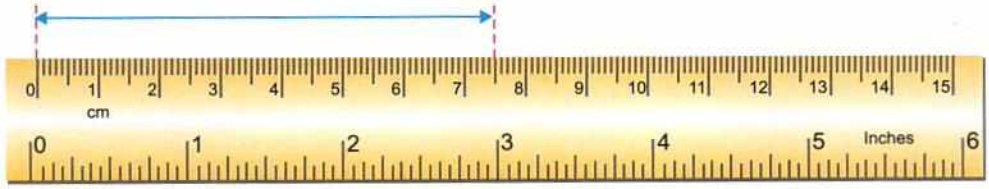
1



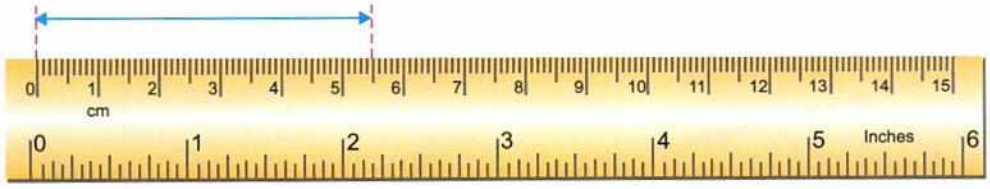
2



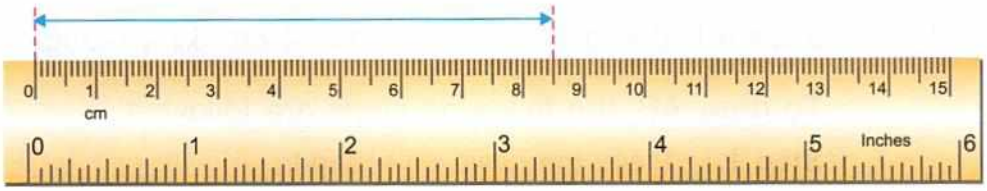
3



4



5



B. Measure the length of the following objects with the help of a scale and write their lengths.

1  _____

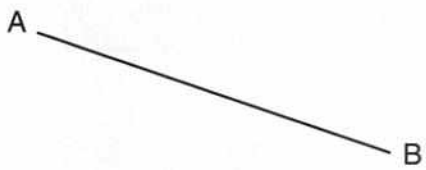
2  _____

3 

_____

4  _____

C. Find the lengths of the following line segments using a ruler.

1 

_____

2 

_____

3 

_____

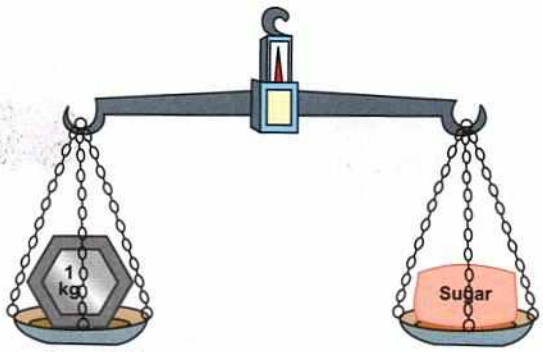
4 

_____

Measuring Weights

Weight of an object tells us how heavy that object is. In other words, weight is the mass of a body. To find the weight of an object, we use a **weighing balance**.

- A weighing balance has two pans.
- In one pan an object of a known weight is put and in the other pan the object that is to be weighed is kept.
- The pan having more weight moves down and the pan having less weight moves up which gives us an idea of the weight of the object. While weighing, we add known weights on the pan so that the known weights equal the weight of the object and the balance remains straight.



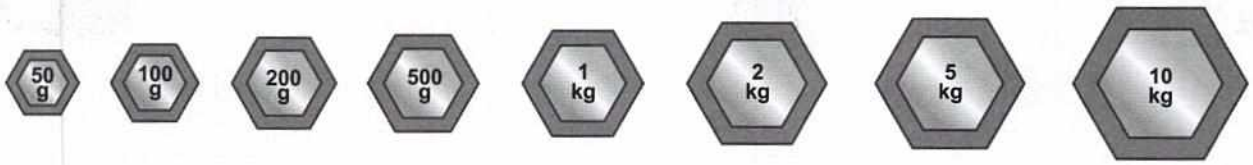
Pan with known weight

Pan with the object to be weighed

The standard units for measuring weight are **kilogram** (or **kg**) and **grams** (or **g**).

1 kg = 1000 g

Some of the standard weights that we use in our daily lives are shown below.

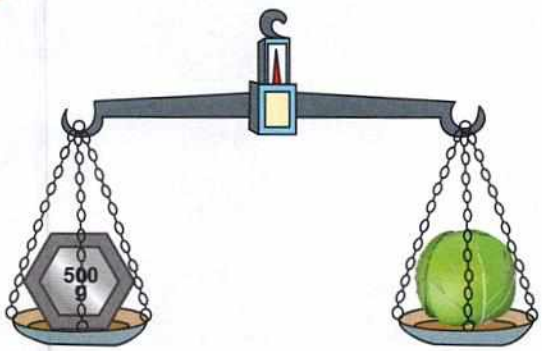


- By using these standard weights, we can weigh equal quantities of an object by aligning both the pans at a same level.

Exercise 8(C)

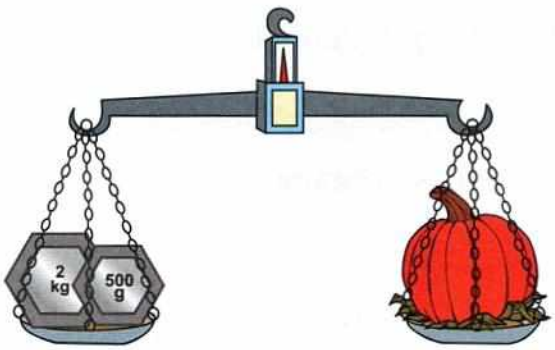
A. Look at the balances given below and write the weight of the items.

1



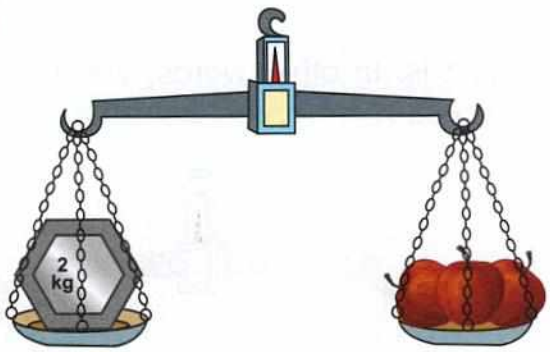
_____

2

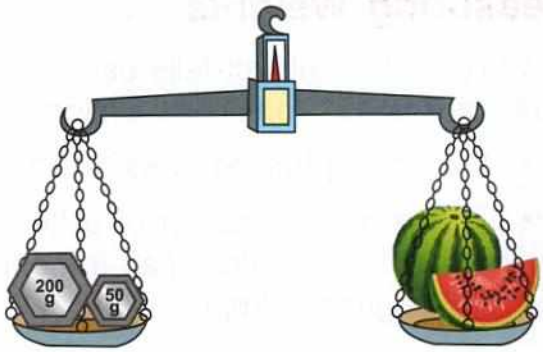


_____

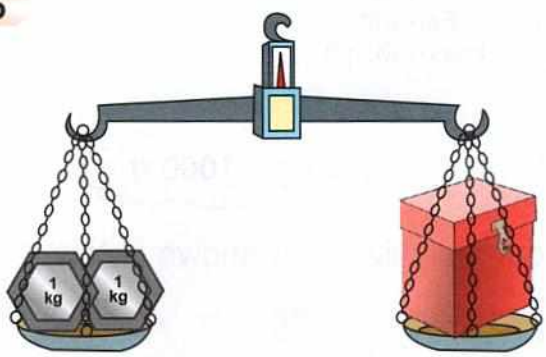
3



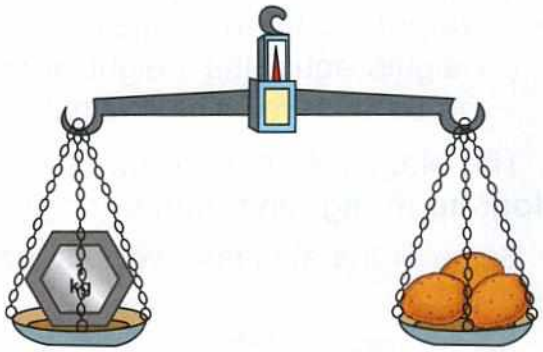
4



5



6



B. Circle the weights that you will use to measure the following :

1 500 g Lady finger

2 1 kg Watermelon

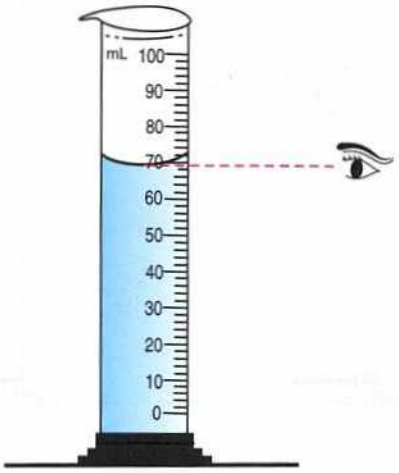
3 10 kg Potatoes

4 2 kg Apples

Measurement of Capacity

Volume or **capacity** of a vessel is the amount of liquid that the vessel can hold. In other words, the space occupied by a liquid in a container is called its **volume**.

The standard unit for measuring volume are **litres** (or **L**) and **millilitres** (or **mL**).



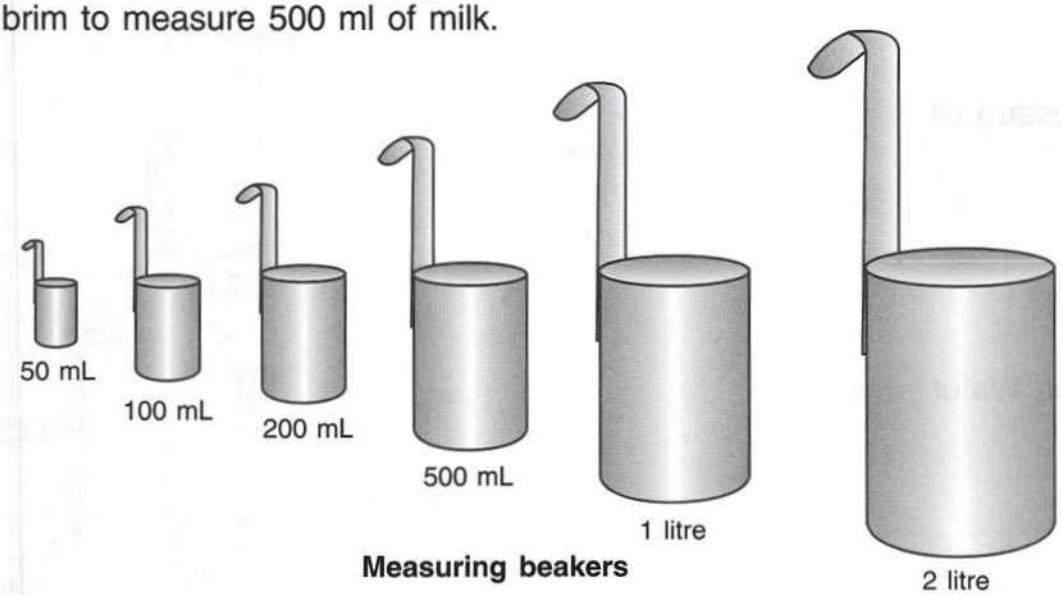
A measuring cylinder

1 L = 1000 mL

To measure the volume of a liquid such as water, milk, oil, etc., we generally use the following two kinds of vessels :

(1) Measuring cylinders : These vessels have markings on them which enable us to measure liquids.

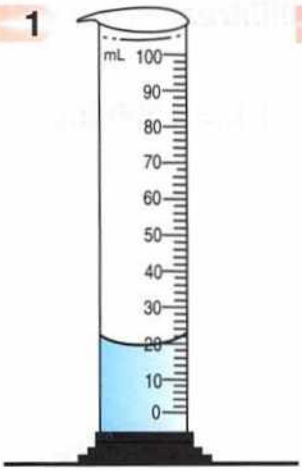
(2) Measuring beakers : These vessels can measure only fixed volumes of a liquid. For example, if you want to buy 500 mL milk, then the milk vendor will use the 500 mL beaker to take out milk from a large container. He will fill the 500 mL beaker completely till its brim to measure 500 ml of milk.

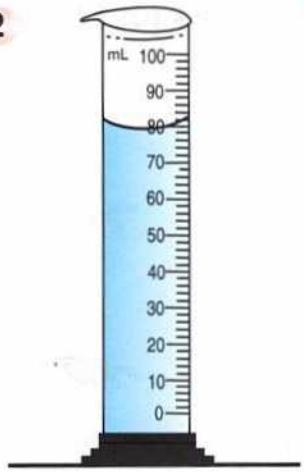


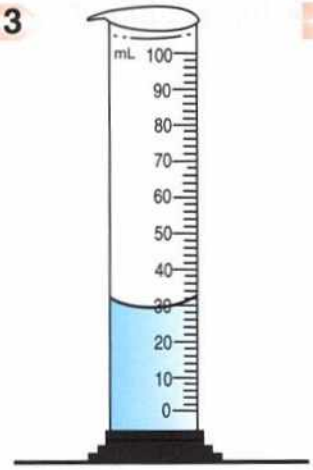
Measuring beakers

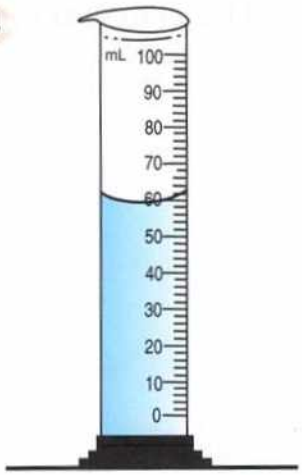
Exercise 8(D)

A. Look at the following vessels and tell the volume of the liquid contained in them.

1 

2 

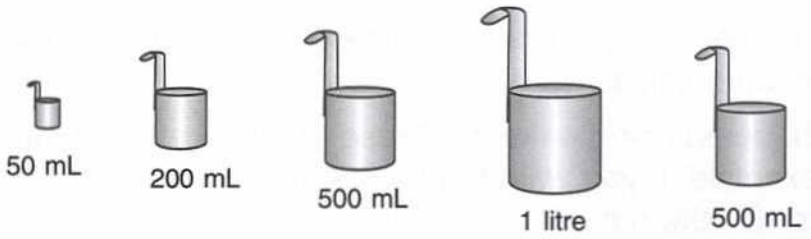
3 

4 

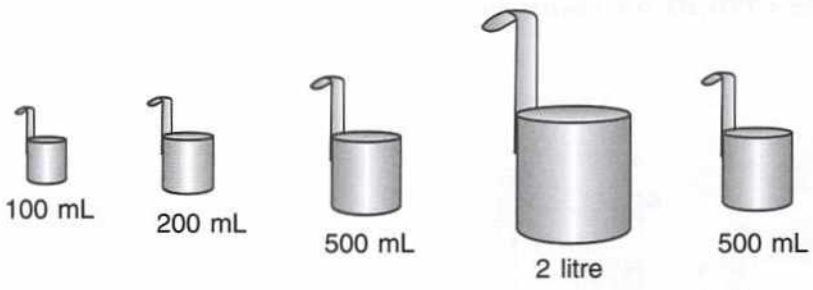
_____ _____ _____ _____

B. Circle the vessels that you will use to measure the following :

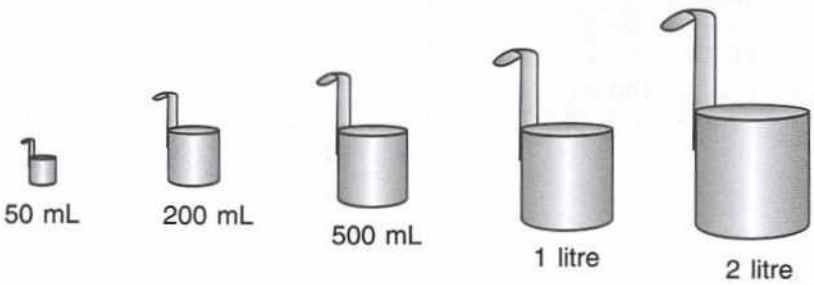
1 2 L Milk



2 1L Mustard oil



3 750 mL Water



9 Data Handling

The collection of information in the form of numerical values is called **data**. It can be represented in pictures, graphs, symbols, etc.

Data handling is a systematic representation of data where we use pictures or symbols for presenting the information.

Example

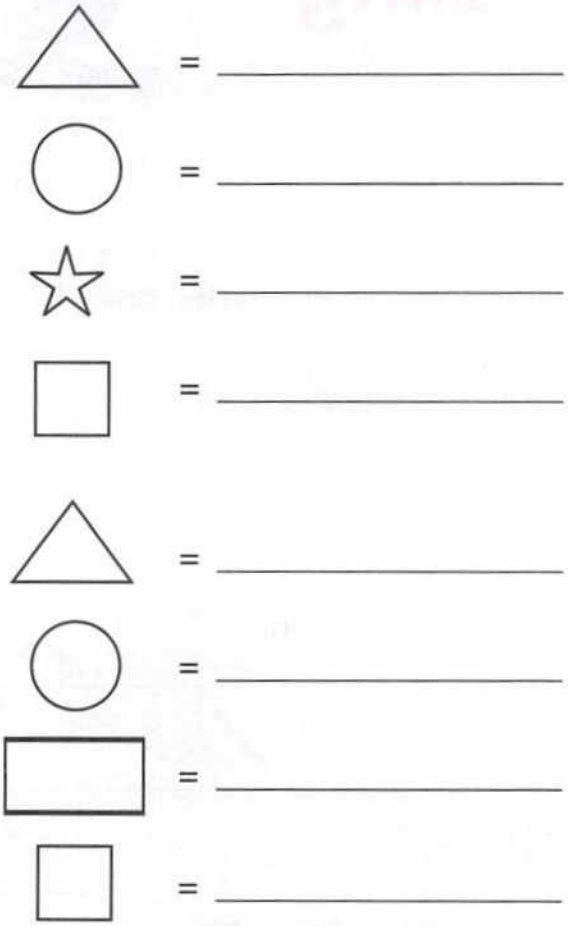
Observe the pictograph, questions asked and the answers given.

Pencil	
Eraser	
Notebook	
Sharpener	

1	How many pencils are there ?	10
2	How many erasers are there ?	6
3	Which item is the least in number ?	Sharpener
4	How many sharpeners are there ?	5
5	Which item is the maximum in number ?	Pencil
6	How many items are there altogether ?	29

Exercise 9(A)

A. Count the different shapes from each figure and colour them.



= _____

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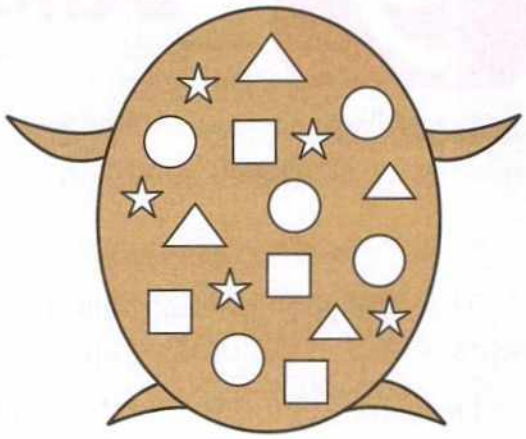
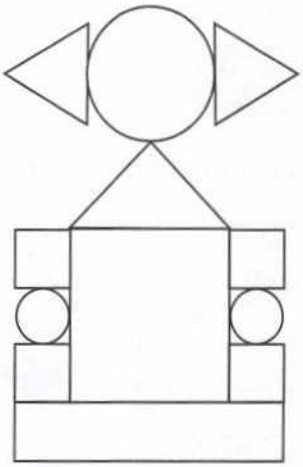
= _____





B. Observe the given pictograph and answer the questions that follow.

Banana	
Orange	
Apple	
Papaya	

1 How many oranges are there ? _____

2 How many bananas are there ? _____

3 How many bananas and apples are there altogether ? _____

4 How many papayas are there ? _____

5 How many papayas and oranges are there altogether ? _____

6 How many apples are there ? _____

7 How many fruits are there altogether ? _____

8 Write the names of the fruits in ascending order of their quantity. _____

C. There are 28 students in a class and the chart below gives their attendance during a week. Read the chart and answer the following questions.

Days	No. of students in class
Monday	20
Tuesday	25
Wednesday	15
Thursday	19
Friday	21
Saturday	12

1 How many students were present on monday ? _____

2 How many students were absent on saturday ? _____

3 How many students were present on wednesday ? _____

4 How many students were present on friday ? _____

5 How many students were absent on monday ? _____

6 How many students were present on thursday ? _____

7 How many students were absent on tuesday ? _____

8 How many students were absent on wednesday ? _____

Information of data can be represented in many ways. When pictures or symbols are used to represent information, such a representation is known as **pictorial representation**.

How to Read a Table

Aman decided to study about the most popular bike colours. So he went to a bike showroom and prepared the following pictorial table.

Black	● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Red	● ● ● ● ● ● ● ●
Blue	● ● ● ● ● ● ●
Yellow	● ● ●

Now observe the table and the answers to the following questions.

		Answer
1	How many blue colour bikes did Aman count ?	7
2	How many red and blue colour bikes did Aman count altogether ?	15
3	How many red colour bikes did Aman count ?	8
4	How many black colour bikes did Aman count ?	15
5	How many yellow colour bikes did Aman count ?	3
6	How many bikes did he count in all ?	33

Exercise 9(B)

A. Ziya observed how her friends come to school. She listed her findings in the table given below.

Car	
Bike	
Cycle	
Rickshaw	

1 What are the different modes of travelling of her friends ? _____

2 Which way of travelling was preffered by most of her friends ? _____

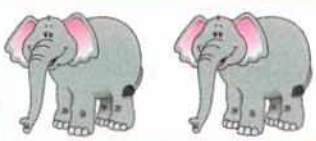
3 How many of her friends come by rickshaw ? _____

4 How many friends does she have ? _____

5 How many of her friends come to school by car and bike altogether ? _____

6 How many of her friends come to school by cycle ? _____

B. Observe the given pictograph and answer the questions that follow.

Cat	
Rat	
Dog	
Elephant	

1 How many cats are there ? _____

2 How many cats and rats are there altogether ? _____

3 How many elephants are there ? _____

4 How many dogs are there ? _____

5 How many animals are there altogether ? _____

6 Name the animal that is more in number. _____

Reading a Pictograph Table

Pihu wanted to celebrate her birthday party and invited 30 friends. She asked for their choice of fruits and made the following pictograph with the details gathered.

Orange	
Banana	
Papaya	
Apple	

Now observe the above table and answer the following.

1. Which fruit is the least popular choice ? _____
2. Which fruit is the most popular choice ? _____
3. How many people chose banana as their favourite fruit ? _____
4. How many people chose apple as their favourite fruit ? _____
5. How many people chose orange as their favourite fruit ? _____
6. Which fruit is preferred more than apple ? _____

Tally Marks

Tally marks are vertical lines used to represent numbers in data handling. Each item of a data is expressed by a single tally mark as shown below.

Tally mark 'I' is a vertical line used for each response.

I represents 1 data item.

II represents 2 data items.

III represents 3 data items.

IIII represents 4 data items.

To write 5 tally marks, draw 4 tally marks and cross it by a slanting line.

𝍸 represents 5 data items.

𝍸 I represents 6 data items.

𝍸 II represents 7 data items.

𝍸 III represents 8 data items.

𝍸 IIII represents 9 data items.

𝍸 𝍸 represents 10 data items.

Example Ms. Annie conducted a survey of the most sold vegetables of 20 vendors and tabulated the responses in the following manner.

Tomato	Capsicum	Potato	Tomato	Capsicum
Potato	Carrot	Capiscum	Carrot	Potato
Capsicum	Carrot	Tomato	Tomato	Carrot
Carrot	Tomato	Tomato	Potato	Tomato

Using the above responses, to find the most sold vegetable, Mrs. Annie presented the data in a tabular form known as tally marks.

The above data in tabular form is given below.

Vegetables	Tally marks	Number of vendors
Tomato	𝍸 II	7
Potato	IIII	4
Capsicum	IIII	4
Carrot	𝍸	5

Observe the table and the answers to the following questions.

1. Which vegetable is purchased the most ? — Tomato
2. Which vegetable is purchased the least ? — Capsicum, potato
3. How many vendors sold carrots the most ? — 5
4. How many vegetables were taken for the data ? — 4

Exercise 9(C)

A. Complete the table

Vehicle	Tally marks	Number of vehicles
Car	𝍸 I	_____
Bus	II	_____
Train	IIII	_____
Aeroplane	𝍸	_____

B. Complete the table

Fast food	Tally marks	Number of fast food
Burger	𝍸 I	_____
Pizza	𝍸 II	_____
Noodles	III	_____
Chocolates	I	_____
Chips	IIII	_____

C. Read and complete the table and answer the following questions.

Games	Tally marks	Number of matches played
Badminton	IIII	_____
Basketball	𝍸	_____
Cricket	𝍸 𝍸 I	_____
Football	𝍸 I	_____
Hockey	𝍸 IIII	_____

1. Matches of which game were played the most ? _____
2. Matches of which game were played the least ? _____
3. Find the total number of matches played. _____
4. How many matches were played in cricket ? _____
5. How many matches were played in hockey ? _____
6. How many matches were played in basketball ? _____

7 Compare the number of matches played in cricket and hockey. _____

D. A shopkeeper records the sale of grocery items in his shop as follows.

Rice	soap	sugar	oil	soap
oil	rice	rice	sugar	oil
sugar	rice	sugar	rice	sugar
oil	oil	soap	oil	soap
oil	sugar	soap	soap	soap
rice	soap	oil	sugar	rice
oil	sugar			

Represent the information in a tabular form using tally marks and answer the following questions.

1 Which item is sold the least ? _____

2 Arrange the items in descending order of the sale ? _____

3 How many items are sold altogether ? _____

4 How much rice was sold ? _____

5 How much sugar was sold ? _____

6 Which item was sold the most ? _____

E. The marks obtained by 19 students in the subject English were : 40, 60, 70, 75, 40, 60, 70, 75, 40, 75, 70, 60, 40, 40, 60, 40, 70, 40, 60.

Represent the above information in a tabular form using tally marks and answer the questions given below.

1 How many students scored 40 marks ? _____

2 How many students scored 70 marks ? _____

3 What were the highest marks in the subject ? _____

4 How many students scored 60 or above ? _____

5 Compare the number of students who got 70 and 75 marks. _____

6 How many scored less than 70 marks ? _____

10 Time

Measurement of Time

We use a watch or a clock to see the time. A clock has two hands.

The short hand tells the hours, so it is called the **hour hand**. The long hand tells the minutes, so it is called the **minute hand**.

The face of the clock has numbers from 1 to 12 marked on it.

Let us Revise

The minute hand is at 12.
The hour hand is at 2.
The time is 2 o'clock

The minute hand is at 12.
The hour hand is at 4.
The time is 4 o'clock.

The minute hand is at 6.
The hour hand is between 2 and 3.
The time is 2: 30 or half past 2.

The minute hand is at 6.
The hour hand is between 4 and 5.
The time is 4:30 or half past 4.

The minute hand is at 3.
The hour hand is between 2 and 3.
The time is quarter past 2 or 2:15.

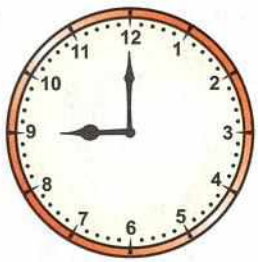
The minute hand is at 3.
The hour hand is between 4 and 5.
The time is quarter past 4 or 4:15.

The minute hand is at 9.
The hour hand is close to 3.
The time is 2:45 or quarter to 3.

The minute hand is at 9.
The hour hand is close to 5.
The time is 4:45 or quarter to 5.

Exercise 10(A)

A. Look at the clocks and fill in the blanks :



1 The minute hand is at _____
The hour hand is at _____
The time is _____ o'clock

2 The minute hand is at _____.
The hour hand is at _____.
The time is _____ o'clock.

3 The time is _____
The minute hand is at _____
The hour hand is between ____ & ____

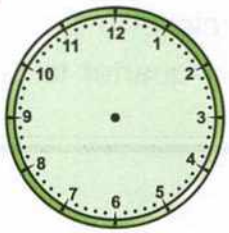
4 The time is _____
The hour hand is close to _____.
The minute hand is at _____.

5 The time is _____
The minute hand is at _____
The hour hand is between ____ & ____

6 The time is _____
The hour hand is close to _____.
The minute hand is at _____.

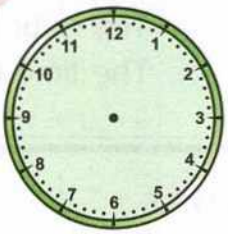
B. Draw the hands to show the given time.

1



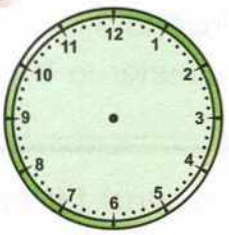
Half past 7

2



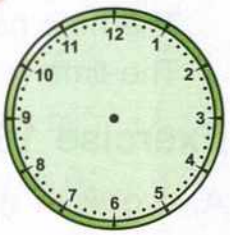
Quarter to 8

3



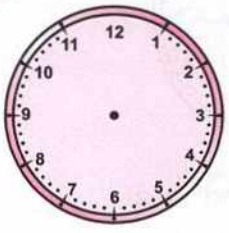
Quarter past 1

4



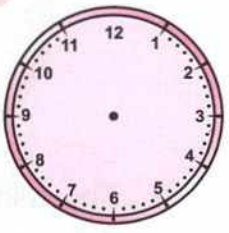
5 o'clock

5



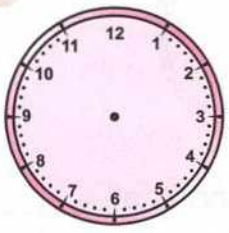
Half past 11

6



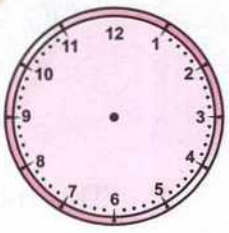
Quarter to 9

7



Quarter to 6

8



Quarter to 4

Concept of a.m. and p.m.

We know that a day has 24 hours. Only 12 hours are shown on the face of the clock. The day is divided into two halves. From 12 o'clock at night (midnight) to 12 o'clock at noon is the first half. These 12 hours are considered as morning hours. To show time from midnight to noon, we write **a.m.**

The time from 12 noon to 12 midnight is the second half. These 12 hours are considered as afternoon or evening hours. To show time from 12 noon to 12 midnight we write **p.m.**

Example We write 8 o'clock in the morning as 8 a.m. and we write 8 o'clock in the evening as 8 p.m.

Exercise 10(B)

A. Complete the following statements by filling a.m. or p.m.

1. I wake up at 6 _____ in the morning.
2. My school starts at 8 _____ .
3. My school gets over at 2 _____ .
4. I go to play at 5 _____ .
5. I eat dinner at 8 _____ .
6. I go to bed at 9 _____ .

B. What will be the time 4 hours after the following times.

1. 6 a.m. _____
2. noon _____
3. mid-night _____
4. 9 a.m. _____
5. 10 a.m. _____
6. 5 p.m. _____
7. 11 p.m. _____
8. 2 p.m. _____

C. How many hours will pass in each of the following time intervals.

1. From 9 a.m. to 11 a.m. _____
2. From 12 noon to 5 p.m. _____
3. From 10 a.m. to 5 p.m. _____
4. From 10 p.m. to 4 a.m. _____
5. From 11 a.m. to 10 a.m. _____
6. From 11 p.m. to 10 a.m. _____

D. Akash started for the school at 7 a.m. and returned home at 3 p.m. How much time did he spend at school ?

E. Mr. Jatav leaves for his office at 8 a.m. and comes back at 7 p.m. How many hours he remains away from his home ?

F. Sakshi went for shopping at 11 a.m. and reached home at 4 p.m. How much time it took her for shopping ?

G. A movie starts at 6 p.m. and ends at 9 p.m. How long is the movie ?

I. A magic show begins at 11 a.m. and ends at 1 p.m. How long is the magic show ?

24 Hour Clock

In a 24 hour clock, time runs from midnight to midnight. In this system a.m. or p.m. is not used and instead of using only 12 numbers, we use numbers from 0 to 24 to represent the 24 hours of a day. A 24 hour clock is used in bus and railway timetables, airline schedules, etc.

12 hour clock	24 hour clock
12 : 00 midnight	00 : 00
01 : 00 a.m.	01 : 00
02 : 00 a.m.	02 : 00
03 : 00 a.m.	03 : 00
04 : 00 a.m.	04 : 00
05 : 00 a.m.	05 : 00
06 : 00 a.m.	06 : 00
07 : 00 a.m.	07 : 00
08 : 00 a.m.	08 : 00
09 : 00 a.m.	09 : 00
10 : 00 a.m.	10 : 00
11 : 00 a.m.	11 : 00
12 : 00 noon	12 : 00
01 : 00 p.m.	13 : 00
02 : 00 p.m.	14 : 00
03 : 00 p.m.	15 : 00
04 : 00 p.m.	16 : 00
05 : 00 p.m.	17 : 00
06 : 00 p.m.	18 : 00
07 : 00 p.m.	19 : 00
08 : 00 p.m.	20 : 00
09 : 00 p.m.	21 : 00
10 : 00 p.m.	22 : 00
11 : 00 p.m.	23 : 00
12 : 00 midnight	24 : 00

It is clear from the above table that from midnight to 12:00 noon, time remains same on both 12 hour clock and 24 hour clock.

To obtain time on a 24 hour clock, we add 12 to the time on a 12 hour clock in the after noon.

Example 1 3 p.m. = 3 + 12 = 15:00 hrs.

Example 2 5 a.m. on a 24 hour clock = 05.00 hrs.

Note : We add 12 only for time in the afternoon.

Time

Given below is a Railway schedule for trains from Delhi to Mumbai. Read it carefully and observe the answers to the questions that follow.

Train No.	Departure Station	Departure Time	Arrival Station	Arrival Time	Journey Duration
12910	H. Nizamuddin	15:40	Bandra Terminus	08:10	16 h 30 m
12215	S. Rohilla	09:20	Bandra Terminus	08:10	22 h 50 m
22634	H. Nizamuddin	23:40	Panvel	23:25	23 h 45 m
01072	H. Nizamuddin	05:15	Lokmanya Tilak Terminus	11:05	29 h 50 m
02450	H. Nizamuddin	7:30	Panvel	7:40	24 h 10 m

(a) Which is the fastest train from Delhi to Mumbai ? **Train No. 1290**

(b) At what time will the train number 22634 depart from Delhi ? **At 23:40**

(c) Which train will reach Mumbai during the night ? **Train No. 22634**

(d) Which train will depart from Delhi at 3:40 in the afternoon ? **Train No. 12910**

Exercise 10(C)

A. Convert the following time to 24 hour clock time.

1 8 a.m. _____

2 10 a.m. _____

3 12 noon _____

4 5 p.m. _____

5 7 p.m. _____

6 10 p.m. _____

B. Convert the following time to 12 hour clock time.

1. 4 : 00 _____
2. 7 : 00 _____
3. 11 : 00 _____
4. 13 : 00 _____
5. 15 : 00 _____
6. 18 : 00 _____

C. A train starts at 11 : 00 o'clock and reaches its destination at 15 : 00 hrs. Write its starting time and reaching time according to the 12 hour clock.

D. A bus starts at 15 : 00 hrs and reaches its destination at 17 : 00 hrs. Write its starting time and reaching time according to the 12 hour clock.

E. A train starts at 11 : 00 a.m. and reaches its destination at 4 : 00 p.m. Write its starting time and reaching time according to the 24 hour clock.

F. Following is the train schedule for a train from Ahmedabad to Delhi. Study the table and answer the following questions.

Station	Arrival Time	Departure Time
Ahmedabad Junction	Start	17:40
Ajmer Junction	00:15	00:55
Jaipur	02:45	02:50
Gurgaon	06:25	06:27
Delhi Cantt.	06:43	06:45
New Delhi	07:30	End

1. At what time does the train start from Ajmer ?
2. For how many minutes does the train halt at Jaipur ?
3. How much time does the train take to reach New Delhi ?
4. How much time does the train take to reach Gurgaon from Jaipur ?

Relation between Various Units of Time

1 day = 24 hours
1 hour = 60 minutes
1 week = 7 days
1 month = 30 days
1 year = 12 months

Since 1 day = 24 hours, so to convert days into hours, we multiply the number of days by 24.

Since 1 hour = 60 minutes, so to convert hours into minutes, we multiply the number of hours by 60.

Example 1 Convert 3 days into hours.

Solution : Since 1 day = 24 hours

so, 3 days = 24 × 3 hours

= 72 hours

Example 2 Convert 2 days and 8 hours into hours.

Solution : Since 1 day = 24 hours

so, 2 days = 2 × 24 hours

= 48 hours

Thus, 2 days and 8 hours = 48 hours + 8 hours

= 56 hours

Exercise 10(D)

A. Convert the given number of days into hours.

1 5 days _____

2 7 days _____

3 10 days _____

4 12 days _____

5 15 days _____

6 18 days _____

B. Convert the given number of days and hours into hours.

1 2 days 2 hours _____

2 3 days 6 hours _____

3 4 days 10 hours _____

4 6 days 15 hours _____

5 10 days 20 hours _____

6 12 days 4 hours _____

Hours and Minutes

Example 1 **Convert 3 hours into minutes.**

Solution : Since 1 hour = 60 minutes

so, 3 hours = 60 × 3 minutes = 180 minutes

Example 2 **Convert 2 hours 30 minutes into minutes.**

Solution : Since 1 hour = 60 minutes

so, 2 hours = 60 × 2 minutes

= 120 minutes

Thus, 2 hours and 30 minutes = 120 minutes + 30 minutes = 150 minutes

Exercise 10(E)

A. Convert the given number of hours into minutes.

1 4 hours _____

2 10 hours _____

3 6 hours _____

4 12 hours _____

5 9 hours _____

6 15 hours _____

B. Convert the given number of hours and minutes into minutes.

1 2 hours 20 minutes _____

2 12 hours 8 minutes _____

3 6 hours 40 minutes _____

4 15 hours 10 minutes _____

5 9 hours 30 minutes _____

6 20 hours 20 minutes _____

C. A match lasts for 4 hours 30 minutes. What was the duration of the match in minutes ?

D. After 6 days I will go to my uncle's house. How many hours I need to wait before going ?

E. I study mathematics for 1 hour 30 minutes daily. How many minutes do I study mathematics daily ?

F. A train travels 6 hours 20 minutes to reach its destination. For how many minutes does it travel ?

G. Mr. Rajan stayed in a hotel for 5 days. How many hours he stayed in the hotel ?

Calendar

We use a calendar to know the dates and months of a particular year. There are 12 months in a year.

Months	Number of days
January	31
February	28/29
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

February has 28 days. Once in four years, February has 29 days. The year in which February has 29 days is called a **leap year**.

Calendar of a month

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

It is clear from the above calendar that :

- 6^{th} is a Monday
- 12^{th} is a Sunday
- 17^{th} is a Friday
- A day repeats itself after every 7 days.

A year has 365 days.
A leap year has 366 days.
2004, 2008, 2012, 2016 were leap years.

REFERENCE CALENDAR 2018

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

DECEMBER

S	M	T	W	T	F	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Exercise 10(F)

A. Look at the calendar of 2018 and fill in the blanks.

1 There are _____ days in February.

2 There are _____ days in April.

3 There are _____ days in July.

4 There are _____ Sundays in January.

5 There are _____ Mondays in January.

6 There are _____ Tuesdays in March.

7 7th March falls on _____ .

8 15th August falls on _____ .

9 2nd October falls on _____ .

10 25th December falls on _____ .

11 The month of April ends on a _____ .

12 The month of August ends on a _____ .

13 The month of March begins on a _____ .

14 The month of November begins on a _____

B. Look at the calendar of 2018 and answer the following questions.

1. Is 2018 a leap year ?
2. Which day is the first day of the year 2018 ?
3. Which day is the last day of the year 2018 ?
4. Are there more Tuesdays or Wednesdays in August 2018 ?
5. What is the maximum number of times a Sunday can occur in a month ?
6. What is the date on the first Sunday of August ?
7. What is the date on the last Sunday of October ?

11 Patterns

Arrangements having repeated figures, numbers, letters, objects, etc. are called patterns. We see patterns in dress materials, doors, walls, etc. Often patterns are arrangements or sequences that follow a rule.

Unit : In a pattern, a unit refers to one or more elements that repeat again and again.

1. Consider the pattern. 

Here the shape  repeats itself. Hence it is the unit of the pattern.

2. Consider the pattern. 

Here the unit that repeats is  .

Patterns with a Unit of Repeat

Observe the given patterns.

1. 

Here the colour pattern red, blue, green is repeated.

2. 

In this pattern, triangle, circle, square is repeated.

3. ABC, DEF, ABC, DEF, ABC, DEF, ...

In this, the letter pattern ABC, DEF is repeated.

4. 2, 4, 6, 8, 10, ...

In this number pattern, each number that is repeating is 2 more than the previous number.

The above examples show that patterns are made by repeating a unit or a set, that consists of one or more elements. This unit or set is called **unit of repeat**. In the first

example, colours red, blue and green are the unit of repeat. In the second example, triangle, cicle and square form the unit of repeat. Similarly in the third example ABC, DEF form the unit of repeat and in the last example, +2 is the unit of repeat.

If an arrangement has a unit of repeat it is a pattern, otherwise, it is not.

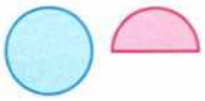
Example 1 Draw the unit of repeat which forms the following patterns.

1. 

2. 

3. 

4. 

Solution : 1.  2.  3.  4. 

Example 2 Choose the unit of repeat which will form the given pattern.

1. R, B, Y, R, B, Y,
   (a) BY (b) RB (c) RBY (d) YR

2. 
   (a)  (b)  (c)  (d) No repeat.

3. 
   (a)  (b) 
   (c)  (d) 

4. 215, 215, 215, 215
   (a) 152 (b) 521 (c) 251 (d) 215

Solution : 1. (c) 2. (c) 3. (a) 4. (d)

Rules of Patterns

Patterns follow a set of rules.

We study patterns of shapes, numbers and letters of alphabet. Patterns of shapes are formed by 2-D shapes. Patterns of numbers use digits 0 to 9 while letter patterns use the letters of the alphabet. But these patterns are formed following a rule or set of rules.

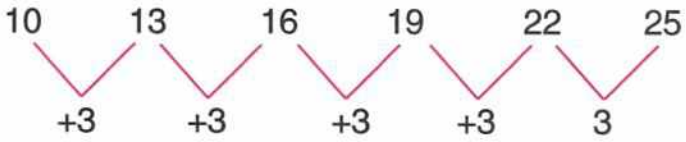
Number Patterns

To find the pattern in an arrangement of numbers, we check for the following :

(a) Observe the first few numbers and see if there is a unit of repeat.

(b) Find out the difference between the first few numbers.

Example Identify the rule in the pattern of numbers.



Solution : We observe the numbers and see the differences. The successor of each number is formed by adding 3 to the previous number.

Rule of repeat is, starting with 10, add 3.

Letter Patterns

In a letter pattern, the letters follow a rule. We identify the unit of pattern by comparing the first few letters.

Example Identify the pattern rule in the following :

abc efg ijk mno qrs uvw.

Solution :

abc	efg	ijk	mno	qrs	uvw.
	skip d	**skip h**	**skip l**	**skip p**	**skip t**

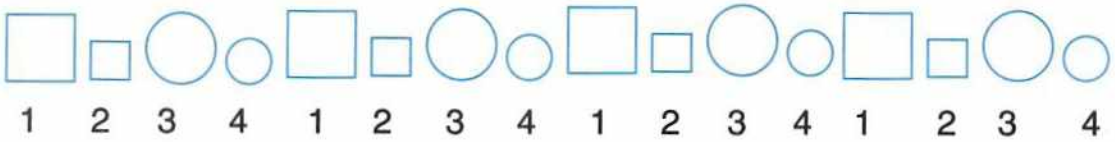
The rule is : Starting with a, skip every fourth letter.

Shape Patterns

In shape patterns, we compare the first few shapes and identify the pattern rule.

Example Identify the pattern rule and complete the shape series.

Solution :



1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

Number the shapes. We will notice that the shapes numbered 1, 2, 3, 4 are repeated.

So the series will be  , repeated 4 times.

Exercise 11

A. Complete the following letter patterns and write the rule alongside.

1	B, D, F, H, J	____, ____, ____	Start at B, skip one letter each time
2	A, C, E, G, I, K	____, ____, ____	_____ _____
3	aA, bB, cC, dD	____, ____, ____	_____ _____
4	AbB, CdD, EfF, GhH	____, ____, ____	_____ _____
5	AbC, DeF, GhI, JkL	____, ____, ____	_____ _____

B. Complete the following number patterns and write the rule in the blank space.

1	5, 10, 15, 20, 25	____, ____, ____	Start at 5 and add 5 each time
2	10, 20, 30, 40, 50	____, ____, ____	_____ _____
3	125, 150, 175, 200	____, ____, ____	_____ _____
4	900, 800, 700, 600	____, ____, ____	_____ _____
5	950, 900, 850, 800	____, ____, ____	_____ _____

C. Make the next shape in the given pattern.

1  _____

2  _____

3  _____

4  _____

5  _____

D. Write the first 4 terms of each pattern following the given rule.

1 Start at 20, add 2 each time _____, _____, _____, _____

2 Start at 25, add 5 each time _____, _____, _____, _____

3 Start at 100, add 10 each time _____, _____, _____, _____

4 Start at 200, add 100 each time _____, _____, _____, _____

5 Start at 100, add 50 each time _____, _____, _____, _____

12 Money

Revision

Currency : Can we think of a life without money or its exchange ? Money transactions are an integral part of our daily lives. Every country in the world uses money which is also called **currency**.

Our Indian currency consists of rupees and paise. For the U.S., it includes Dollars and Cents while for U.K., it is Pound and Shillings. ₹ is the symbol of Rupee, $ is the symbol of U.S. dollar and £ is the symbol of British Pound.

Example 1 To write rupees and paise in their symbolic forms.

We write 25 rupees as ₹ 25. We write 1 rupee as ₹ 1.

₹ 1 = 100 p

Paise is denoted by 'p' in lower case.

Paise is always written as a two digit number.

We write 25 paise as 25p.

When we write rupees and paise together, we separate them using a dot '.'. Rupees are written on the left side of the '.' and paise are written on the right side. For example, 35 rupees and 60 paise, we write as ₹ 35.60.

8 rupees 5 paise are written as ₹ 8.05 and not as ₹ 8.5. Think why ? We know that 100 paise make a rupee. If we write ₹ 8.5 it means ₹ 8 and 50 paise.

₹ 83.75 means 83 rupees and 75 paise

(a) 8 rupees 70 paise is written as ₹ 8.70

(b) 15 rupees 5 paise is written as ₹ 15.05

Example 2 Write the following in words.

(a) ₹ 83.75 : Eighty three rupees and seventy five paise.

(b) ₹ 106.40 : One hundred six rupees and forty paise.

Exercise 12(A)

A. Write the following in symbolic form (in digits) :

Examples

7 rupees 65 paise = ₹ 7.65
39 rupees 5 paise = ₹ 39.05
715 rupees 50 paise = ₹ 715.50

1 25 rupees 30 paise = _____
2 212 rupees 90 paise = _____
3 85 rupees 8 paise = _____
4 834 rupees 9 paise = _____
5 215 rupees 80 paise = _____
6 508 rupees 60 paise = _____
7 780 rupees 75 paise = _____
8 919 rupees 15 paise = _____

B. Write the following amounts in words.

Examples

₹ 58.50 = Fifty eight rupees and fifty paise.
₹ 382.05 = Three hundred eighty two rupees and five paise.

1 ₹ 48.40 = _____
2 ₹ 125.25 = _____
3 ₹ 444.80 = _____
4 ₹ 787.05 = _____
5 ₹ 804.60 = _____
6 ₹ 504.75 = _____
7 ₹ 783.80 = _____
8 ₹ 375.45 = _____

Conversion

We know that ₹ 1 = 100 p. So, to convert rupees into paise, we multiply the number of rupees by 100.

Example 1

Convert ₹ 8 and ₹ 15 into paise.

₹ 8 = 8 × 100 = 800 paise
₹ 15 = 15 × 100 = 1,500 paise

To convert rupees and paise into paise, we multiply the rupees by 100 and then we add the existing paise to the product.

Example 2 Convert ₹ 18.25 and ₹ 464.80 into paise.

₹ 18.25 = ₹ 18 + 25p = 18 × 100p + 25p
= 1800 + 25 = 1825p

₹ 464.80 = ₹ 464 + 80p = 464 × 100p + 80p
= 46400 + 80
= 46480p

A very simple rule to convert rupees into paise or rupees and paise into paise is to remove the symbol ₹ and/or the dot (.) as the case may be and write paise at the right end of the number.

Examples

₹ 9.00 = 900p ₹ 15.75 = 1575p

₹ 83.35 = 8335p ₹ 215.70 = 21570p

Similarly, to convert paise into rupees and/or paise, the rule is to put a dot '.' after two digits from the right of the given number showing paise and put the symbol ₹ on the left before the given number.

Examples

(a) 335p = 300p + 35p
= ₹ 3 and 35p or ₹ 3.35

(b) 4,286p = 4,200p + 86p
= ₹ 42 and 86p or ₹ 42.86

(c) 9495p = ₹ 94.95

(d) 12835p = ₹ 128.35

Exercise 12(B)

A. Convert the following into paise.

1 ₹ 15 = 2 ₹ 12.25 = 3 ₹ 260.08 =

4 ₹ 85 = 5 ₹ 21.05 = 6 ₹ 375.25 =

7 ₹ 175 = 8 ₹ 62.35 = 9 ₹ 614.60 =

10 ₹ 285 = 11 ₹ 92.45 = 12 ₹ 808.80 =

13 ₹ 725 = 14 ₹ 165.60 = 15 ₹ 942.25 =

B. Convert the following into rupees or rupees and paise.

1	400p =		2	770p =	
3	600p =		4	805p =	
5	890p =		6	17,160p =	
7	908p =		8	37,300p =	
9	1,600p =		10	58,600p =	
11	2,700p =		12	68,325p =	
13	4,904p =		14	74,070p =	
15	5,850p =		16	81,685p =	

Adding Money

Example 1

Add ₹ 123.25, ₹ 85.60 and ₹ 48.75

₹	p
1 1 1	1
123	25
85	60
+ 48	75
257	60

METHOD

Step 1 : Add the paise first.
25 + 60 + 75 = 160p = ₹ 1 + 60p
Write 60 under column 'p'.
Carry over ₹ 1 to the column '₹'.

Step 2 : Add the rupees.
123 + 85 + 48 + 1 (carry over) = 257 rupees
Write 257 under column '₹'.

Ans : ₹ 257.60

The above example can also be worked out like this;

₹	p
1 1 1	1
123.25	
85.60	
+ 48.75	
257.60	

We arrange the amounts in such a way that all the dots fall in one column. Then we add the numbers as we add ordinary numbers and put a dot in the sum below other dots.

Ans : ₹ 257.60

Example 2 Add ₹ 1,224.80; ₹ 896.25 ; ₹ 128.60 and ₹ 4.75

	₹	p
	1122	1
	1224	80
	896	25
	128	60
+	4	75
	2254	40

OR

	₹	p
	1122	1
	1224.80	
	896.25	
	128.60	
+	4.75	
	2254.40	

Steps are the same as above.

Ans : ₹ 2254.40

Exercise 12(C)

A. Add the following.

1

₹	p
89	40
35	60
18	40
+ 0	75

2

₹	p
123	60
68	45
20	25
+ 0	05

3

₹	p
1124	60
1048	75
987	60
+ 987	60

4

₹	p
94	20
110	25
283	60
+ 9	05

5

45	15
100	30
751	55
+ 99	07

6

3148	60
1741	75
1040	60
+ 626	48

7

316	48
10	78
2040	07
+ 1730	30

8

751	25
22	66
4321	22
+ 5142	40

9

893	35
475	65
98	40
+ 10	78

10

4106	75
714	35
375	20
+ 79	00

11

110	25
100	08
1924	75
+ 51	75

12

452	21
144	04
5211	51
+ 4444	11

B. Arrange the following in columns and add (Do these in your note book).

1	₹ 18.40	+	₹ 58.25	+	₹ 79.00
2	₹ 100.65	+	₹ 275.80	+	₹ 375.20
3	₹ 115.80	+	₹ 383.45	+	₹ 587.25
4	₹ 893.35	+	₹ 915.90	+	₹ 79.20
5	₹ 10.05	+	₹ 475.65	+	₹ 981.80
6	₹ 51.75	+	₹ 100.08	+	₹ 1,262.55
7	₹ 217.80	+	₹ 89.40	+	₹ 9.05
8	₹ 4,106.75	+	₹ 3,812.80	+	₹ 1,924.75
9	₹ 17,816.25	+	₹ 24,040.70	+	₹ 30,816.05
10	₹ 28,006.00	+	₹ 21,725.85	+	₹ 9,008.35

Subtraction

Example 1 Subtract ₹ 38.15 from ₹ 69.79.

₹	p
69	79
– 38	15
31	64

Subtract the paise first.
Then subtract the rupees.

Ans : ₹ 31.64

Example 2 Subtract ₹ 196.70 from ₹ 343.25.

₹	p
3 4 2 12 5	
~~3 4 3 . 2 5~~	
– 1 9 6 . 7 0	
1 4 6 . 5 5	

METHOD

Step 1 : Subtract the paise first.
As 70 > 25, so borrow ₹ 1 from ₹ 343.
1 rupee + 25 paise = 125 paise.
125 – 70 = 55
Write 55 under column 'p'.

Step 2 : Subtract ₹ 196 from ₹ 342.
Write 146 under column '₹'.

Ans : ₹ 146.55

The above example can also be worked out as follows :

₹	p
2 13 12 12	
3 4 3 . 2 5	
− 1 9 6 . 7 0	
1 4 6 . 5 5	

METHOD

Step 1 : Arrange the amount to be subtracted under the larger amount in a column such that dots fall in a column.

Step 2 : Subtract the amounts like ordinary numbers.

Step 3 : Put a dot in the result below all other dots.

Ans : ₹ 146.55

Example 3

Subtract ₹ 246.85 from ₹ 514.20.

₹	p
10 13 11	
4 ~~1~~ ~~14~~ ~~12~~ 10	
5 ~~1~~ 4 . ~~2~~ 0	
− 2 4 6 . 8 5	
2 6 7 . 3 5	

Steps are the same as above.

Ans : ₹ 267.35

Exercise 12(D)

A. Subtract the following.

1	₹	p
	62	40
−	21	30

2	₹	p
	84	35
−	53	15

3	₹	p
	71	75
−	52	40

4	₹	p
	55	45
−	15	32

5		
	194	60
−	89	45

6		
	391	15
−	174	50

7		
	3,148	60
−	1,767	75

8		
	5,211	45
−	4,210	15

9		
	14,118	20
−	9,227	85

10		
	22,725	25
−	18,766	70

11		
	17,423	70
−	896	85

12		
	541	22
−	412	01

B. Find the difference between the following. (Do these in your notebook).

1. ₹ 17.70 and ₹ 9.65
2. ₹ 89.25 and ₹ 28.70
3. ₹ 126.12 and ₹ 89.08
4. ₹ 289.45 and ₹ 178.60
5. ₹ 748.36 and ₹ 548.40
6. ₹ 1,126.08 and ₹ 1,058.80
7. Subtract ₹ 98.84 from ₹ 134.62.
8. Subtract ₹ 258.36 from ₹ 571.05
9. Take away ₹ 77.55 from ₹ 121.75.
10. Take away ₹ 486.75 from ₹ 816.08
11. By how much is ₹ 1225.50 greater than ₹ 770.75?
12. By how much is ₹ 1283.25 less than ₹ 3036.50?

Word Problems

Example 1 A pair of shoes costs ₹ 845.50, a trouser costs ₹ 600.75 and a shirt costs ₹ 360.75. Find the total cost of all the three items.

Solution :

$$\begin{array}{lcr} & & {\scriptstyle 1\ 2\ 1} \\ \text{Cost of shoes} & = & ₹\ 845.50 \\ \text{Cost of trouser} & = & ₹\ 600.75 \\ \text{Cost of shirt} & = & +\ ₹\ 360.75 \\ \textbf{Total cost (by Addition)} & = & ₹\ 1807.00 \end{array}$$

Ans : ₹ 1807.00

Example 2 Ramesh had ₹ 50 with him. He bought a chocolate for ₹ 28.50. How much money is left with him ?

Solution :

$$\begin{array}{lcl} \text{Amount Ramesh had} & = & ₹\ 50.00 \\ \text{Amount spent on chocolate} & = & ₹\ 28.50 \\ \textbf{Amount he has now (by Subtraction)} & = & ₹\ 21.50 \end{array}$$

Ans : ₹ 21.50

Example 3 A woman had ₹ 1,200 with her. She went to the market and bought grocery worth ₹ 665.75, vegetables for ₹ 75.80, sweets for ₹ 112.20 and spent ₹ 25.00 on conveyance. How much money was left with her?

Solution : Amount spent = ₹ 665.75 + ₹ 75.80 + ₹ 112.20 + ₹ 25.00
= ₹ 878.75

Amount woman had = ₹ 1,200.00

Amount spent = – ₹ 878.75

Amount left = **₹ 321.25**

Ans : ₹ 321.25

Exercise 12(E)

1. A. T.V. set costs ₹ 11400, a laptop costs ₹ 23,085.75 and a fan costs ₹ 895.70. Find the cost of all the three things.
2. A man bought a refrigerator for ₹ 10,450, a steel almirah for ₹ 755.75 and a tape-recorder for ₹ 5850.65. How much money did he spend in all?
3. The monthly expenditure of a student is as follows :

   Rent ₹ 900, Food ₹ 750.00, Transportation ₹ 275.00 and college fee ₹ 875.00. If the monthly income he gets is ₹ 3500.00, how much money does the student save every month ?
4. I gave ₹ 725.65 to my friend Ravi. He paid back ₹ 478.85. How much money does he still owe me?
5. Mrs. Mathur had ₹ 1275.75 in her purse. She bought a saree for ₹ 465.65 and a hand bag for ₹ 175.85. How much money was left ?
6. Radha bought the following things from a grocer's shop,

   (i) Rice for ₹ 275.80 (ii) Wheat for ₹ 418.85 (iii) Spices for 208.25

   She gave one thousand rupees to the shopkeeper. How much money would the shopkeeper return?
7. Subtract the difference of ₹ 415.75 and 283.90 from ₹ 500.00.
8. The cost of a motorcycle is ₹ 28640. The cost of a scooter is ₹ 18865. By how much is the motorcycle costlier than the scooter ?

Self Assessment

A. Choose the correct answers.

1. The smallest 4-digit number is

   (a) 1100 (b) 0999 (c) 1000 (d) 10100

2. The largest 4-digit number is

   (a) 9990 (b) 9099 (c) 9909 (d) 9999

3. The place value of 2 in 2365 is

   (a) 2 (b) 2000 (c) 200 (d) 20

4. When we arrange the numbers 1293, 9835, 8773, 5321 and 1378 in ascending order, we get

   (a) 1293, 5321, 1378, 9838, 8773 (b) 1293, 1378, 5321, 8773, 9835

   (c) 1293, 1378, 8773, 5321, 9838 (d) 9838, 1293, 1378, 8773, 5321

5. When we arrange the numbers 4120, 1879, 5328, 9313 and 2145 in descending order, we get

   (a) 9313, 1879, 5328, 4120, 2145 (b) 9313, 5328, 4120, 2145, 1879

   (c) 2145, 9313, 5328, 4120, 1879 (d) 2145, 1879, 4120, 9313, 5328

6. The greatest four-digit number using the digits 0, 1, 2, 3 only once is

   (a) 3012 (b) 0312 (c) 3210 (d) 3021

7. The smallest four digit number using the digits 0, 4, 5, 6 only once is

   (a) 6540 (b) 0465 (c) 4056 (d) 6054

8. 25×12 is equal to

   (a) 275 (b) 175 (c) 200 (d) 300

9. When we add 2345, 3847 and 1876, we get

   (a) 8608 (b) 8068 (c) 8680 (d) 8606

10. $3214 - 1286 + 3275 - 1375$ is equal to

    (a) 9540 (b) 6589 (c) 2061 (d) 3828

11. When we divide 88 by 8, the quotient is

    (a) 10 (b) 12 (c) 11 (d) 13

12. When we divide 115 by 11, the remainder is

    (a) 7 (b) 5 (c) 8 (d) 10

13. When we estimate the sum of the numbers 2560, 3120 and 1851 to the nearest 1000, we get

(a) 7000 (b) 9000 (c) 8000 (d) 6000

14. A tangram puzzle has

(a) 5 pieces (b) 7 pieces (c) 8 pieces (d) 10 pieces

15. Tessellation means

(a) Finding the area of a region (b) Finding volume

(c) Finding height

(d) Tiling a region using shapes that do not overlape & leave no gaps in between.

16. One kilometre is

(a) 100 m (b) 1000 m (c) 10000 m (d) 10 m

17. 4 p.m. in a 24 hour clock is written as

(a) 12:00 (b) 16:00 (c) 14:00 (d) 18:00

18. 23:00 written in a 24 hour clock is shown in a 12 hour clock as :

(a) 10 p.m. (b) 9 p.m. (c) 11 p.m. (d) 11 a.m.

19. The unit of repeat in the pattern AB, CD, AB, CD, is

(a) ABC (b) AB, CD (c) ABCD (d) A, B, C, D

20. The rule for the pattern 100, 95, 90, 85, 80 is

(a) Start at 100 and subtract 5 each time

(b) Start at 100 and subtract 3 each time

(c) Start at 95 and subtract 5 each time

(d) Start at 90 and subtract 11 each time

B. Fill in the blanks.

1. ..... is the smallest 3-digit number.
2. When we round off 2180 to the nearest 100, we get ..... .
3. The predecessor of 8358 is ..... .
4. 8356 lies between ..... and ..... .
5. Adding two numbers in any order does not change the ..... .
6. When we add 0 to any number, we get the ..... itself.
7. When we subtract 0 from any number, we get ..... .

8. In multiplication, the number we multiply is called ..... .

9. When we multiply 25 by 9, we get ..... .

10. When we divide 53 by 5, we get ..... as remainder.

11. ..... is a chinese puzzle consisting of 7 shapes.

12. 1 metre = ... cm.

13. 1 kilometre = ... metres.

14. 2 p.m. in a 24 hour clock is ..... .

15. The symbol of Indian rupee is ..... .

16. Tally marks are ..... lines.

17. In a pattern, a unit repeats itself. It is called ..... .

18. In a year, there are ..... days.

19. In a leap year, February has ..... days.

20. The smallest coin in circulation is ..... .

21. The rupee note of highest value in circulation is ..... .

22. When we add ₹ 125.50, ₹ 175.25 and ₹ 3125, we get ₹ ..... .

23. The next four shapes in the pattern are

 ....

24. The next 3 numbers in the number pattern are

850, 860, 870, 880, 890 are ....

25. The next 3 letters in the letter pattern AB, BB, CC, are ....

C. Answer the following questions.

1. Represent the following numbers on an abacus.

(a) 897 (b) 3456 (c) 8765 (d) 5678

2. Write the following numbers in ascending order.

(a) 2345, 1532, 9876, 4210, 7837 (b) 1425, 8324, 2356, 7327, 5279

3. Write the following numbers in descending order.

(a) 9378, 1238, 4563, 7325, 1807 (b) 8348, 1345, 7392, 5347, 2345

4. Find the sum of 1278, 3987 and 2987.

5. Estimate the sum of 1532, 2135 and 3561 to the nearest thousand.

6. Subtract 2376 from 9876.

7. Compute the following : 2132 + 3527 – 4567 + 1234.

8. Write the multiplication table of 15.

9. Distribute 121 sweets among 11 children.

10. Convert the following into metre

    (a) 3800 cm (b) 2900 cm

11. Convert the following into metre and centimetre.

    (a) 1890 cm (b) 3250 cm (c) 4545 cm

12. Convert 1 hour 30 minutes into minutes.

13. Convert 24 hours into minutes.

14. Find how many hours are there in 720 minutes.

15. How many minutes are there in 7 hours 15 minutes ?

16. Find the sum of rupees ₹ 2012.50 and ₹ 3501.25.

17. Subtract ₹ 1456.75 from ₹ 7654.25.

18. Draw the following figures and mark their faces, edges and vertices wherever applicable.

    (a) a cube (b) a cuboid (c) a sphere (d) a cone

19. On a dot grid draw the following :

    (a) a straight line (b) a curved line (c) a cone (d) a kite

20. Using a tangram, draw the figure of a duck.

21. Use the given tiles to make tiling patterns.

    (a)  (b) 

22. Using a ruler, measure the lengths of :

    (a) Your water bottle (b) Your English textbook

    (c) Your desk (d) Your study table

23. Given below is the railway timetable for different Rajdhani Express trains to Lucknow, Patna, Mumbai and Kolkata. Read the details carefully and answer the questions that follow :

Train	Train Name	Train source	Depature time from Delhi	Destination Arrival time
1	Mumbai Rajdhani	Delhi	16:30	05:35
2	Kolkata Rajdhani	Delhi	17:05	06:15
3	Patna Rajdhani	Delhi	17:15	05:30
4	Lucknow Rajdhani	Delhi	22:15	05:30

(a) Which is the source of the four trains ?

(b) How much time does Mumbai Rajdhani take to reach its destination ?

(c) How much time does Patna Rajdhani take to reach Patna from Delhi ?

(d) How much time does Kolkata Rajdhani take for its journey ?

(e) Which train takes more time ?

24. Anuj wanted to record the marks obtained by the 30 students of his class in a tabular form using tally marks. The marks obtained by the 30 students are :

53, 90, 65, 53, 65, 90, 70, 65, 90, 70, 53, 90, 65, 70, 90, 95, 70, 90, 53, 65, 70, 90, 95, 65, 70, 53, 65, 95, 70, 70

(a) Make the tally marks of number of students who scored 53, 65, 70, 90 and 95 marks.

(b) How many students scored 70 marks ?

(c) How many students scored 53 marks ?

(d) How many students scored 90 marks ?

(e) How many students scored 95 marks ?

(e) How many students scored less than 90 marks ?

25. Write the next 3 terms of the number patterns following the given rule.

(a) Start at 5. Add 5 each time. ....

(b) Start at 50. Add 10 each time. ....

(c) Start at 250. Add 100 each time. ....

(d) Start at 500. Subtract 50 each time. ....

ANSWERS

EXERCISE-1

A. **2.** Forty five
3. Three hundred twenty seven
4. Four hundred eight
5. One hundred seventy six
6. Six hundred twenty eight
7. Eight hundred sixty nine
8. Five hundred twenty three
9. Seven hundred seventy one
10. Three hundred fifty one

B. **2.** 224 **3.** 704 **4.** 557 **5.** 422 **6.** 805
7. 999 **8.** 63 **9.** 603 **10.** 192

C. **2.** 458, 460 **3.** 699, 701 **4.** 29, 31 **5.** 945, 947 **6.** 398, 400
7. 40, 42 **8.** 444, 446 **9.** 923, 925 **10.** 250, 252

D. **2.** 2, 4, 3 **3.** 0, 2, 8 **4.** 5, 8, 3 **5.** 6, 0, 7 **6.** 7, 4, 0
7. 8, 0, 0 **8.** 0, 9, 2 **9.** 1, 2, 2 **10.** 9, 0, 1

E. **2.** 600 + 10 + 7 **3.** 0 + 0 + 8 **4.** 500 + 60 + 7 **5.** 900 + 90 + 2 **6.** 300 + 0 + 0
7. 700 + 40 + 0 **8.** 100 + 50 + 5 **9.** 200 + 70 + 5 **10.** 800 + 50 + 4

F. **2.** 872 **3.** 243 **4.** 473 **5.** 326 **6.** 9
7. 505 **8.** 222 **9.** 780 **10.** 198

G. **2.** = **3.** < **4.** < **5.** > **6.** <
7. > **8.** > **9.** < **10.** >

H. **1.** 278, 728, 827 **2.** 408, 480, 508 **3.** 187, 718, 876 **4.** 400, 701, 864 **5.** 230, 300, 403
6. 124, 241, 421 **7.** 379, 793, 937 **8.** 269, 629, 962

I. **1.** 866, 686, 680 **2.** 840, 808, 408 **3.** 666, 606, 66 **4.** 810, 118, 80 **5.** 751, 571, 517
6. 732, 332, 273 **7.** 522, 512, 215 **8.** 910, 109, 91

J. **1.** 774, 775, 776, 777 **2.** 199, 202, 205, 208 **3.** 640, 645, 650, 655
4. 882, 886, 890, 894 **5.** 521, 528, 535, 542

K. **1.** 785, 790, 795, 800, 805, 810, 815, 820 **2.** 950, 955, 960, 965, 970, 975, 980, 985
3. 180, 185, 190, 195, 200, 205, 210, 215

L. **1.** 440, 450, 460, 470, 480, 490, 500, 510 **2.** 880, 890, 900, 910, 920, 930, 940, 950
3. 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380

M. **1.** 600, 700, 800, 900, 1000, 1100, 1200, 1300 **2.** 200, 300, 400, 500, 600, 700, 800, 900
3. 100, 200, 300, 400, 500, 600, 700, 800

N. **1.** 664, 646, 466, 666, 444 **2.** 891, 819, 189, 198, 918
3. 605, 506, 650, 560, 555 **4.** 754, 745, 574, 547, 475
5. 651, 650, 105, 106, 156

O. **1.** 984, 489 **2.** 830, 308 **3.** 653, 356 **4.** 872, 278 **5.** 740, 407

EXERCISE-2(A)

A. **2.** Two thousand six hundred thirty five
3. Five thousand four hundred fifty seven
4. Nine thousand two hundred sixteen
5. Six thousand eight hundred fifty two
6. Five thousand one hundred eighty
7. Two thousand five hundred four
8. Seven thousand fifty three
9. Four thousand eighty four
10. Two thousand five

B. **2.** 6267 **3.** 4569 **4.** 9632 **5.** 7086 **6.** 3073
7. 5047 **8.** 8808 **9.** 1002 **10.** 6006

C. **2.** 2518, 2519, 2520; 2522, 2523, 2524
3. 4347, 4348; 4350; 4352, 4353, 4354
4. 6035, 6036; 6038, 6039, 6040, 6041
5. 9808, 9809, 9810; 9812, 9813, 9814
6. 3766, 3767, 3768; 3770, 3771; 3773
7. 5286, 5287; 5289, 5290; 5292, 5293
8. 8539, 8540, 8541; 8543, 8544; 8546

D. **1.** 1448, 1453, 1458, 1463 **2.** 2499, 2504, 2509, 2514 **3.** 5835, 5840, 5845, 5850
4. 8654, 8659, 8664, 8669 **5.** 6258, 6263, 6268, 6273

E. **1.** 7688, 7698, 7708, 7718 **2.** 6965, 6975, 6985, 6995 **3.** 4613, 4623, 4633, 4643
4. 2398, 2408, 2418, 2428 **5.** 5565, 5575, 5585, 5595

F. **1.** 5678, 5778, 5878, 5978 **2.** 2492, 2592, 2692, 2792 **3.** 7380, 7480, 7580, 7680
4. 4934, 5034, 5134, 5234 **5.** 9574, 9674, 9774, 9874

G. **1.** 4546, 5546, 6546, 7546 **2.** 5308, 6308, 7308, 8308 **3.** 5963, 6963, 7963, 8963
4. 6692, 7692, 8692, 9692 **5.** 5990, 6990, 7990, 8990

EXERCISE-2(B)

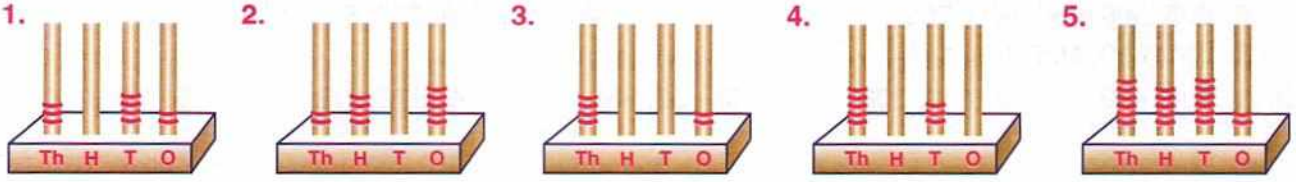
A. **2.** 2476 **3.** 3625 **4.** 5318 **5.** 4679 **6.** 7550
7. 2600 **8.** 3510 **9.** 4840 **10.** 7300 **11.** 2080
12. 5416 **13.** 5600 **14.** 9710

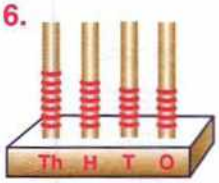
B. **2.** 3577 **3.** 6525 **4.** 1463 **5.** 4339 **6.** 7859
7. 2299 **8.** 4600 **9.** 5799 **10.** 2999 **11.** 4509
12. 5014 **13.** 7869 **14.** 8999

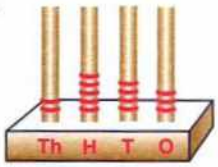
EXERCISE-2(C)

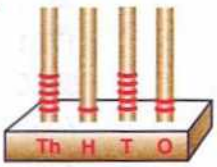
A. **1.** 1432 **2.** 4153 **3.** 6451 **4.** 4773 **5.** 2563
6. 8761 **7.** 7839 **8.** 6674 **9.** 3343 **10.** 2550
11. 3041 **12.** 5400

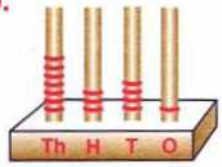
B. **1.** **2.** **3.** **4.** **5.**

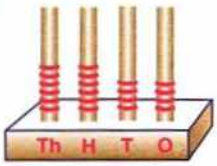


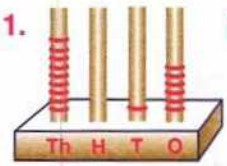
6. 

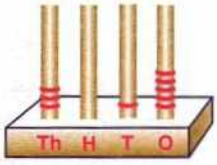
7. 

8. 

9. 

10. 

11. 

12. 

EXERCISE-2(D)

A. 2.

			7
		5	0
	3	0	0
8	0	0	0

3.

			1
		8	0
	4	0	0
9	0	0	0

4.

			5
		7	0
	2	0	0
6	0	0	0

5.

			7
		8	0
	0	0	0
3	0	0	0

6.

			6
		0	0
	9	0	0
7	0	0	0

7.

			8
		0	0
	0	0	0
4	0	0	0

8.

			5
		0	0
	5	0	0
5	0	0	0

9.

			7
		1	0
	3	0	0
5	0	0	0

10.

			0
		1	0
	5	0	0
9	0	0	0

B. 2. 200, 2 **3.** 4, 4 **4.** 70, 7 **5.** 0, 0
6. 4, 4 **7.** 80, 8 **8.** 0, 0 **9.** 7, 7
10. 9000, 9

EXERCISE-2(E)

A. 1. 1, 7, 5, 4 **2.** 6, 8, 6, 8 **3.** 2, 3, 5, 2 **4.** 3, 7, 1, 4 **5.** 3, 5, 8, 8
6. 5, 2, 4, 3 **7.** 7, 1, 2, 2 **8.** 9, 5, 3, 4 **9.** 8, 5, 1, 7 **10.** 4, 5, 3, 4

B. 2. 3935 **3.** 1392 **4.** 5579 **5.** 6813 **6.** 9043
7. 4307 **8.** 8061 **9.** 2760 **10.** 3024

EXERCISE-2(F)

A. 1. = **2.** > **3.** > **4.** > **5.** <
6. < **7.** > **8.** < **9.** < **10.** <
11. > **12.** >

	Smallest	Greatest	Smallest	Greatest	Smallest	Greatest
B. 1.	146	1471	2. 1271	1721	3. 6345	8735
4.	2352	7825	5. 5306	6350	6. 2564	5246
7.	3495	9943	8. 3457	7453	9. 7501	7580
10.	5540	5565	11. 3231	3240	12. 2939	2951

EXERCISE-2(G)

A. 1. 795, 2635, 2678, 4346, 4375
2. 2472, 2635, 4763, 4791, 6582
3. 1003, 1056, 3721, 3725, 5871
4. 352, 4135, 6083, 8603, 8775
5. 5432, 6408, 6438, 7846, 7864
6. 2835, 8382, 8385, 8478, 8487
7. 1386, 1432, 6854, 8211, 8217

B. 1. 8351, 7683, 7672, 7548, 7541
2. 3781, 3568, 2648, 2480, 2408
3. 5841, 3682, 3408, 2594, 2589
4. 8271, 4876, 4276, 4259, 927
5. 8448, 8438, 6083, 6035, 4687
6. 5873, 5768, 1689, 1684, 1647
7. 7259, 7239, 6853, 6819, 6435

EXERCISE-2(H)

A. 1.	7642, 2467	2. 8542, 2458	3. 8731, 1378	4. 8740, 4078	5. 9520, 2059
6.	9753, 3579	7. 4210, 1024	8. 6510, 1056	9. 9720, 2079	10. 9321, 1239
B. 1.	7777, 2222	2. 7777, 1000	3. 7777, 2000	4. 9999, 1111	5. 9999, 3333
6.	7777, 2000	7. 9999, 1000	8. 7777, 2222	9. 8888, 2222	10. 9999, 7000

EXERCISE-2(I)

A. 1. E	2. O	3. E	4. E	5. O
6. E	7. O	8. E	9. E	10. O
11. O	12. O	13. O	14. E	15. E
16. O				

B. 1. 5015, 5017; 5021, 5023; 5027, 5029, 5031, 5033, 5035, 5037
2. 4471, 4473; 4477, 4479, 4481; 4485, 4487, 4489, 4491, 4493; 4497

C. 1. 9244, 9246; 9250, 9252, 9254; 9258, 9260, 9260, 9262; 9266, 9268, 9270
2. 5212, 5214; 5218, 5220, 5222, 5226, 5228, 5230, 5232, 5234; 5238, 5240, 5242; 5246, 5248

EXERCISE-2(J)

1. 20542	2. 37924	3. 55555	4. 74302	5. 94203

EXERCISE-2(K)

A. 1. Twenty two thousand five hundred forty one
2. Eighty nine thousand nine hundred forty
3. Sixty six thousand seven hundred twnety nine
4. Ninety three thousand two hundred eighty six
5. Forty thousand two hundred eighty three

B. 1. 98533, Ninety eight thousand five hundred thirty three
2. 64887, Sixty four thousand eight hundred eighty seven

3. 44593, Forty four thousand five hundred ninety three
4. 79897, Seventy nine thousand eighty hundred ninety seven
5. 78644, Seventy eight thousand six hundred forty four
6. 65775, Sixty five thousand seven hundred seventy five

C. (a) (b) (c) (d) (e)

EXERCISE-2(L)

1. 1, 7, 8, 1, 4 2. 2, 4, 8, 3, 6 3. 3, 7, 9, 4, 2 4. 7, 2, 0, 4, 3 5. 9, 2, 1, 2, 8
6. 5, 7, 9, 0, 7 7. 8, 2, 6, 2, 9

EXERCISE-2(M)

1. 50000 + 8000 + 900 + 20 + 4 2. 80000 + 9000 + 70 + 5 3. 70000 + 1000 + 7
4. 90000 + 5000 + 500 + 70 5. 60000 + 2000 + 600 + 60 + 5

EXERCISE-2(N)

1. 17504 2. 40786 3. 61111 4. 14004 5. 97566

EXERCISE-2(O)

1. (a) 40000	(b) 700	(c) 8000	(d) 800	(e) 70000
(f) 40	(g) 0	(h) 90000		
2. (a) (i) 50000	(ii) 5	(iii) 500	(iv) 5000	(v) 50
(b) (i) 9000	(ii) 90	(iii) 9000	(iv) 90000	(v) 900
(c) (i) 700	(ii) 70000	(iii) 7000	(iv) 7	(v) 70

EXERCISE-3(A)

1. 358	2. 577	3. 947	4. 977	5. 896	6. 788
7. 368	8. 798	9. 589	10. 634	11. 575	12. 473
13. 346	14. 426	15. 633	16. 614		

EXERCISE-3(B)

1. 922	2. 843	3. 664	4. 647	5. 1033	6. 639
7. 744	8. 732	9. 1313	10. 1029	11. 911	12. 1010

EXERCISE-3(C)

1. 5040	2. 6733	3. 8340	4. 7170	5. 4082	6. 9149
7. 9910	8. 3681	9. 6337	10. 9943	11. 4659	12. 5311
13. 8022	14. 4000	15. 4949			

EXERCISE-3(D)

1. 7687 **2.** 5796 **3.** 5248 **4.** 8785 **5.** 4888 **6.** 9546
7. 7428 **8.** 8646 **9.** 5746 **10.** 9383

EXERCISE-3(E)

1. 6763 **2.** 5553 **3.** 6293 **4.** 4827 **5.** 7284 **6.** 5382
7. 4207 **8.** 5473 **9.** 5642 **10.** 9024

EXERCISE-3(F)

1. 8702 **2.** 8712 **3.** 8838 **4.** 9338 **5.** 7969 **6.** 7959
7. 8487 **8.** 9009 **9.** 9820 **10.** 9163 **11.** 9336 **12.** 7072

EXERCISE-3(G)

1. 938 students **2.** ₹ 953 **3.** 929 plants **4.** 1402 stamps **5.** 2611 people
6. 2426 bags **7.** 6772 books **8.** 3679 chocolates **9.** 9054 cars **10.** ₹ 9356

EXERCISE-3(H)

1. (i) 840 (ii) 1240 (iii) 8350 (iv) 6780
2. (i) 900 (ii) 3200 (iii) 8400 (iv) 3200
3. (i) 3500 (ii) 4400 (iii) 7600 (iv) 3200
4. (i) 4000 (ii) 3000 (iii) 2000 (iv) 1000
5. (i) 8350, 8300, 8000 (ii) 7880, 7900, 8000
(iii) 4840, 4800, 5000 (iv) 3500, 3500, 3000
6. (i) 9290 (ii) 11000 (iii) 12000
7. (i) 9000 (ii) 15000 (iii) 9000 **8.** 7100; 40 **9.** 8400

EXERCISE-3(I)

A. 1. 57759 **2.** 78639 **3.** 99930 **4.** 91029 **5.** 98648 **6.** 89077
7. 75955 **8.** 69371 **9.** 89756 **10.** 97981 **11.** 77232 **12.** 70796
13. 96663 **14.** 99088 **15.** 90242 **16.** 73788 **17.** 89292 **18.** 97474
19. 97576 **20.** 72616

B. 1. 22342, 28214, 37265; 87821
2. 696, 3716, 14450, 28182; 47044
3. 4775, 9550, 19500, 25816; 59641
4. 595, 7225, 27216, 33316; 68352
5. 4321, 4532, 14612, 67998; 91463
6. 7321, 14532, 34612, 37998; 94463
7. 3509, 11752, 12101, 55009; 82371
8. 9092, 16111, 26601, 32210; 84014
9. 6095, 7951, 33741, 48809; 96596
10. 3101, 24125, 25251, 35998; 88475

C. 1. 35854 **2.** 46704 **3.** 87187 **4.** 58215 **5.** 51165

D. 1. 75483 people **2.** ₹ 82510 **3.** 72340 trees **4.** 96518 **5.** 51664

EXERCISE-4(A)

1. 226	**2.** 0	**3.** 612	**4.** 122	**5.** 111	**6.** 210
7. 11	**8.** 510	**9.** 104	**10.** 51	**11.** 126	**12.** 33
13. 114	**14.** 521	**15.** 444	**16.** 214		

EXERCISE-4(B)

1. 109	**2.** 89	**3.** 299	**4.** 416	**5.** 189	**6.** 99
7. 186	**8.** 248	**9.** 351	**10.** 89	**11.** 592	**12.** 277
13. 379	**14.** 46	**15.** 19	**16.** 174		

EXERCISE-4(C)

A.	**1.** 3242	**2.** 1833	**3.** 4350	**4.** 2520	**5.** 6372	**6.** 6283
	7. 7353	**8.** 4533	**9.** 3324	**10.** 3293		
B.	**1.** 4412	**2.** 4234	**3.** 5531	**4.** 4524	**5.** 3253	**6.** 3512
	7. 8423	**8.** 3444				

EXERCISE-4(D)

A.	**1.** 5232	**2.** 7635	**3.** 2931	**4.** 4759	**5.** 835	**6.** 1672
	7. 5707	**8.** 2353	**9.** 6803	**10.** 1573	**11.** 2943	**12.** 3045
	13. 2627	**14.** 3362	**15.** 1268	**16.** 4658	**17.** 2818	**18.** 2058
	19. 1353	**20.** 3810				
B.	**1.** 3692	**2.** 2078	**3.** 2846	**4.** 2515	**5.** 1525	**6.** 1539
	7. 3163	**8.** 3253	**9.** 4434	**10.** 4667		
C.	**1.** 1751	**2.** 3917	**3.** 3646	**4.** 4621	**5.** 4563	**6.** 2326
	7. 737	**8.** 2855	**9.** 2566	**10.** 4666		

EXERCISE-4(E)

1. 414	**2.** 2462	**3.** 2143	**4.** 1365	**5.** 3461	**6.** 1525
7. 2650	**8.** 5485	**9.** 1068	**10.** 2612	**11.** 430	**12.** 393
13. 350	**14.** 7992	**15.** 5085	**16.** 26		

EXERCISE-4(F)

1. (i) 2200	(ii) 3010	(iii) 2330	**2.** (i) 2000	(ii) 2900	(iii) 4400
3. (i) 2000	(ii) 1000	(iii) 2000	**4.** 6200, 6173	**5.** 2000, No it is 1400	

EXERCISE-4(G)

A.	**1.** 22213	**2.** 5134	**3.** 32177	**4.** 38383	**5.** 2068	**6.** 33287
	7. 26998	**8.** 15562	**9.** 15662	**10.** 31358	**11.** 26628	**12.** 63485
	13. 15484	**14.** 39079	**15.** 29461	**16.** 14935		
B.	**1.** 17413	**2.** 23632	**3.** 35054	**4.** 34706	**5.** 14379	**6.** 23554

EXERCISE-4(H)

1. (a) O = 9, T = 3, H = 4, Th = 5 (b) O = 0, T = 2, H = 9, Th = 1
(c) O = 7, T = 4, H = 6, Th = 6 **2.** 452 **3.** 1722 **4.** 1116 **5.** 4788

EXERCISE-4(I)

1. (a) 1843 (b) 714 (c) 739 (d) 2755 (e) 1438
(f) 1758 (g) 722 (h) 5878 **2.** 944 **3.** 698

EXERCISE-4(J)

1. 2628 **2.** 9237 **3.** 7280 **4.** 2305 **5.** 3610 **6.** 1402 **7.** 2440

EXERCISE-5

A. 1. 4 × 6, 24 **2.** 3 × 9 = 27 **3.** 5 × 8 = 40
B. 2. 145 **3.** 343 **4.** 774 **5.** 784 **6.** 704
7. 612 **8.** 656 **9.** 999 **10.** 1257

EXERCISE-5(A)

1. 8428 **2.** 3204 **3.** 6730 **4.** 5428 **5.** 8945
6. 17901 **7.** 15496 **8.** 7467

EXERCISE-5(B)

1. 160 **2.** 187 **3.** 165 **4.** 168 **5.** 154
6. 299 **7.** 1056 **8.** 492 **9.** 924 **10.** 672
11. 352 **12.** 429 **13.** 198 **14.** 299 **15.** 273

EXERCISE-5(C)

1. 7182 **2.** 9291 **3.** 9792 **4.** 9789 **5.** 9912
6. 8432 **7.** 4424 **8.** 8625 **9.** 9196 **10.** 9492
11. 5406 **12.** 3861 **13.** 13824 **14.** 8992 **15.** 16813

EXERCISE-5(D)

1. ₹ 8505 **2.** ₹ 9380 **3.** 1872 students **4.** 11745 chocolates **5.** 9380 students
6. 4320 times per hour **7.** 4704 chocolates **8.** (i) 5840 days (ii) 8760 hours
9. 33256 books **10.** 5835 pencils

EXERCISE-5(E)

A. 1.

9	8	7	
8 / 1	7 / 2	6 / 2	9
7 / 2	6 / 4	6 / 6	8

2.

4	8	5	0	
0 / 4	0 / 8	0 / 5	0 / 0	1
3 / 6	7 / 2	4 / 5	0 / 0	9

B. 1. 51762 **2.** 9801 **3.** 54351 **4.** 98095 **5.** 96278
6. 38445 **7.** 34199 **8.** 56484 **9.** 95880

EXERCISE-5(F)

1. (i) 48840 (ii) 60522 (iii) 110526 (iv) 143616 (v) 141457
2. 55600, 50094, 5506
3. ₹ 416000, 41420

EXERCISE-6(A)

1. Q - 179
2. Q - 811
3. Q - 421
4. Q - 369
5. Q - 291
6. Q - 453, R - 6
7. Q - 255
8. Q 1301
9. Q - 156
10. Q - 458
11. Q - 728
12. Q - 905, R - 6
13. Q - 781, R - 4
14. Q - 589
15. Q - 447, R - 3

EXERCISE-6(B)

A. 1. Q - 35
2. Q - 36, R - 6
3. Q - 45, R - 10
4. Q - 54
5. Q - 33, R - 24
6. Q - 32, R - 10
7. Q - 74, R - 1
8. Q - 21, R - 3
9. Q - 36, R - 3
10. Q - 68
11. Q - 25, R - 2
12. Q - 33, R - 16
13. Q - 214, R - 10
14. Q - 242, R - 6
15. Q - 188, R - 4
16. Q - 80
17. Q - 508, R - 12
18. Q - 260, R - 19
19. Q - 184, R - 25
20. Q - 347
21. Q - 531

B. 1. ₹ 382
2. 408
3. 80 hrs
4. 57
5. 196
6. 266
7. 14
8. 49
9. 73 rows, 34 were leftout
10. 162, No.

EXERCISE-7(A)

A. 1. 2 - D Shapes
2. Triangle
3. Cylinder
4. Cone
5. Sphere
6. 12
7. Triangle
8. Cone

B. 1. Cone
2. Cube
3. Cylinder
4. Sphere
5. Cuboid

EXERCISE-7(B)

1. (a) 7
2. 
3. (d) 5
4. (c) China
5. 

EXERCISE-7(C)

1.   

EXERCISE-7(D)

2. (a) Wing J
(b) Rahul should pass the grocery shop, restaurant and movie plaza to enter the school from Gate 2.
(c) Grocery shop
(d) Bakery

EXERCISE-8(A)

A. 1. 400 cm
2. 650 cm
3. 2500 cm
4. 3400 cm
5. 3700 cm
6. 6400 cm
7. 8300 cm
8. 130 cm
9. 628 cm
10. 1430 cm
11. 2305 cm
12. 3216 cm
13. 6436 cm
14. 5743 cm
15. 2785 cm
16. 4347 cm

B. **1.** 4 m **2.** 6 m **3.** 5 m **4.** 3.8 m **5.** 2.5 m **6.** 7.96 m
7. 5.52 m **8.** 9.53 m **9.** 8.76 m **10.** 16 m **11.** 8 m **12.** 24.68 m
13. 12.34 m **14.** 2 m **15.** 2.8 m **16.** 7 m

EXERCISE- 8(B)

A. **1.** 5 cm **2.** 8 cm **3.** 7.5 cm **4.** 5.5 cm **5.** 8.5 cm
B. **1.** 9 cm **2.** 4·4 cm **3.** 5·4 cm **4.** 3·9 cm
C. **1.** 5 cm **2.** 4·4 cm **3.** 8·1 cm **4.** 5·5 cm

EXERCISE-8(C)

A. **1.** 500 g **2.** 2.5 kg **3.** 2 kg **4.** 250 g **5.** 2 Kg
6. 1 Kg **B.** **1.** 200 gm, 200 gm 100 gm **2.** 500 g, 500 g
3. 5 kg, 2 kg, 2 kg 1 kg **4.** 1 kg, 500 g, 500 gm

EXERCISE-8(D)

A. **1.** 20 mL **2.** 80 mL **3.** 30 mL **4.** 60 mL
B. **1.** 1 L, 500 mL, 500 mL **2.** 500 mL, 500 mL **3.** 500 mL, 200 mL, 50 mL

EXERCISE-9(A)

A. **1.** △ — 4 **2.** ◯ — 5 **3.** ☆ — 5 **4.** □ — 4
1. △ — 3 **2.** ◯ — 3 **3.** ▭ — 1 **4.** □ — 5
B. **1.** 13 **2.** 8 **3.** 17 **4.** 6 **5.** 19
6. 9 **7.** 36 **8.** Papaya, Banana, Apple, Orange
C. **1.** 20 **2.** 16 **3.** 15 **4.** 21 **5.** 8
6. 19 **7.** 3 **8.** 13

EXERCISE-9(B)

A. **1.** Car, Bike, Cycle, Rickshaw **2.** Car **3.** 1 **4.** 10 **5.** 6 **6.** 3
B. **1.** 7 **2.** 12 **3.** 2 **4.** 4 **5.** 18 **6.** Cat

EXERCISE-9(C)

A. 6 2 4 5
B. 6 7 3 1 4
C. **1.** Cricket **2.** Badmintion **3.** 35 **4.** 11 **5.** 9
6. 5 **7.** 11 and 9
D. **1.** Rice **2.** Oil, Sugar, Soap, Rice **3.** 32 **4.** 7
5. 8 **6.** Oil
E. **1.** 7 **2.** 4 **3.** 75 **4.** 12 **5.** 4 and 3
6. 12

EXERCISE-10(A)

A. **1.** 12,9,9 **2.** 12,3,3 **3.** 6,1,& 2, 1:30 **4.** 3, 10 & 11, 10:15
5. 9, 8 and 9, 8:45 **6.** 6,6 and 7, 6:30

B. **1.**  **2.**  **3.**  **4.** 

5.  **6.**  **7.**  **8.** 

EXERCISE-10(B)

A. **1.** a.m **2.** a.m **3.** p.m **4.** p.m **5.** p.m **6.** p.m
B. **1.** 10 a.m. **2.** 4 p.m. **3.** 4 a.m. **4.** 1 p.m. **5.** 2 p.m.
6. 9 p.m. **7.** 3 a.m. **8.** 6 p.m.
C. **1.** 2 **2.** 5 **3.** 7 **4.** 6 **5.** 23 **6.** 11
D. 8 hours **E.** 11 hours **F.** 5 hours **G.** 3 hours **I.** 2 hours

EXERCISE-10(C)

A. **1.** 08:00 **2.** 10:00 **3.** 12:00 **4.** 17:00 **5.** 19:00
6. 22:00
B. **1.** 4 a.m **2.** 7 a.m **3.** 11 a.m **4.** 1 p.m **5.** 3 p.m
6. 6 p.m
C. 11 a.m. and 3 p.m. **D.** 3 p.m. and 5 p.m **E.** 11:00 and 16:00
F. **1.** 00:55 **2.** 5 minutes **3.** 13 hours 50 minutes **4.** 3 hrs 35 minutes

EXERCISE-10(D)

A. **1.** 120 hours **2.** 168 hours **3.** 240 hours **4.** 288 hours **5.** 360 hours
6. 432 hours
B. **1.** 50 hours **2.** 78 hours **3.** 106 hours **4.** 159 hours **5.** 260 hours
6. 292 hours

EXERCISE-10(E)

A. **1.** 240 minutes **2.** 600 minutes **3.** 360 minutes **4.** 720 minutes 5. 540 minutes
6. 900 minutes
B. **1.** 140 minutes **2.** 728 minutes **3.** 400 minutes **4.** 910 minutes **5.** 570 minutes
6. 1220 minutes **C.** 270 minutes **D.** 144 hours **E.** 90 minutes **F.** 380 minutes
G 120 hours

EXERCISE-10(F)

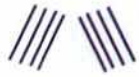
A. **1.** 28 **2.** 30 **3.** 31 **4.** 4 **5.** 5
6. 4 **7.** Wednesday **8.** Wednesday **9.** Tuesday **10.** Tuesday
11. Monday **12.** Friday **13.** Thursday **14.** Thursday

B. **1.** No **2.** Monday **3.** Monday **4.** Wednesdays **5.** 5
6. 5th **7.** 28th

EXERCISE-11

A. **1.** L,N,P **2.** M,O,Q **3.** eE, fF, gG **4.** IjJ, KlL, MnN
5. MnO, PqR,StU

B. **1.** 30, 35, 40 **2.** 60, 70, 80 start at 10 and add 10 each time
3. 225, 250, 275 start at 125 and add 25 each time
4. 500, 400, 300 start at 900 and subtract 100 each time
5. 750, 700, 650 start at 950 and subtract 50 each time

C. **1.** ○○○○○ **2.**  **3.**  **4.**  **5.** 

D. **1.** 20, 22, 24, 26 **2.** 25,30,35,40 **3.** 100,110,120,130 **4.** 200,300,400,500
5. 100, 150, 200, 250

EXERCISE-12(A)

A. **1.** ₹ 25.30 **2.** ₹ 212.90 **3.** ₹ 85.08 **4.** ₹ 834.09 **5.** ₹ 215.80
6. ₹ 508.60 **7.** ₹ 780.75 **8.** ₹ 919.15

B. **1.** Forty Eight Rupees and forty paise
2. One hundred twenty five rupees and twenty five paise
3. Four Hundred forty four rupees and eighty paise
4. Seven hundred eighty seven rupees and five paise
5. Eight hundred four rupees and sixty paise
6. Five hundred four rupees and seventy five paise
7. Seven hundred eighty three rupees and eighty paise
8. Three Hundred seventy five rupees and forty five paise

EXERCISE-12(B)

A. **1.** 1500 p **2.** 1225 p **3.** 26008 p **4.** 8500 p **5.** 2105 p
6. 37525 p **7.** 17500 p **8.** 6235 p **9.** 61460 p **10.** 28500 p
11. 9245 p **12.** 80880 p **13.** 72500 p **14.** 16560 p **15.** 94225 p

B. **1.** ₹ 4 **2.** ₹ 7.70 **3.** ₹ 6 **4.** ₹ 8.05 **5.** ₹ 8.90
6. ₹ 171.60 **7.** ₹ 9.08 **8.** ₹ 373 9. ₹ 16 **10.** ₹ 586
11. ₹ 27 **12.** ₹ 683.25 **13.** ₹ 49.04 **14.** ₹ 740.70 **15.** ₹ 58.50
16. ₹ 816.85

EXERCISE-12(C)

A. **1.** ₹ 114.15 p **2.** ₹ 212.35 p **3.** ₹ 4148.55 p **4.** ₹ 497.10 p **5.** ₹ 996.07 p
6. ₹ 6557.43 p **7.** ₹ 4097.63 p **8.** ₹ 10237.53 p **9.** ₹ 1478.18 p **10.** ₹ 5275.30 p
11. ₹ 2186.83 p **12.** ₹ 10251.87 p

B. **1.** ₹ 155.65 **2.** ₹ 751.65 **3.** ₹ 1086.50 **4.** ₹ 1888.45 **5.** ₹ 1467.50
6. ₹ 1414.38 **7.** ₹ 316.25 **8.** ₹ 9844.30 **9.** ₹ 72673 **10.** ₹ 58740.20

EXERCISE-12(D)

A. **1.** ₹ 41.10 **2.** ₹ 31.20 **3.** ₹ 19.35 **4.** ₹ 40.13 **5.** ₹ 105.15
6. ₹ 216.65 **7.** ₹ 1380.85 **8.** ₹ 1001.30 **9.** ₹ 4890.35 **10.** ₹ 3958.55
11. ₹ 16526.85 **12.** ₹ 129.21

B. **1.** ₹ 8.05 **2.** ₹ 60.55 **3.** ₹ 37.04 **4.** ₹ 110.85 **5.** ₹ 199.96
6. ₹ 67.28 **7.** ₹ 35.78 **8.** ₹ 312.69 **9.** ₹ 44.20 **10.** ₹ 329.33
11. ₹ 454.75 **12.** ₹ 1753.25

EXERCISE-12(E)

1. ₹ 35381.45 **2.** ₹ 17056.40 **3.** ₹ 700 **4.** ₹ 246.80 **5.** ₹ 634.25
6. ₹ 97.10 **7.** ₹ 368.15 **8.** ₹ 9775

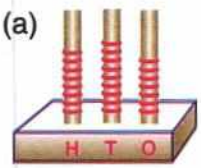
SELF ASSESSMENT

A. **1.** (c) **2.** (d) **3.** (b) **4.** (b) **5.** (b)
6. (c) **7.** (c) **8.** (d) **9.** (b) **10.** (d)
11. (c) **12.** (b) **13.** (c) **14.** (b) **15.** (d)
16. (b) **17.** (b) **18.** (c) **19.** (b) **20.** (a)

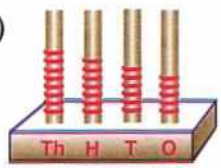
B. **1.** 100 **2.** 2200 **3.** 8357 **4.** 8355 and 8357 **5.** Sum
6. The number **7.** The number itself **8.** Multiplicand **9.** 225 **10.** 3
11. Tangram **12.** 100 cm **13.** 1000 m **14.** 14.00 hrs **15.** ₹
16. Vertical **17.** Unit of repeat **18.** 365 **19.** 29 **20.** 50 paise

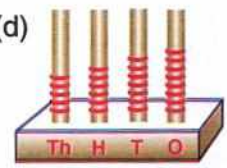
21. ₹ 2000 **22.** ₹ 3425.75 **23.**  **24.** 900,910,920

25. DD, EE, FF

C. **1.** (a) 

(b) 

(c) 

(d) 

2. (a) 1532, 2345, 4210, 7837, 9876 (b) 1425, 2356, 5279, 7327

3. (a) 9378, 7325, 4563, 1807, 1238 (b) 8348, 7392, 5347, 2345, 1345

4. 8252 **5.** 8000 **6.** 7500 **7.** 2326

8. 15, 30, 45, 60, 75, 90, 105, 120, 135, 150 **9.** 11 sweets per child

10. (a) 38 m (b) 29 m **11.** (a) 18 m 90 cm (b) 32 m 50 cm (c) 45 m 45 cm

12. 90 minutes **13.** 1440 minutes **14.** 12 hours **15.** 435 minutes **16.** ₹ 5513.75

17. ₹ 6197.5 **23.** (a) Train 1 : Mumbai; Train 2 : Kolkata; Train 3 : Patna; Train 4 : Lucknow

(b) 13 hours 05 minutes (c) 12 hours 15 minutes (d) 13 hours 10 minutes

(e) Train 2

24. (a) 53 — 𝍸 65 — 𝍸 II 70 — 𝍸 III 90 — 𝍸 II 95 — III

(b) 8 (c) 5 (d) 7 (e) 3 (f) 20

25. (a) 5, 10, 15, 20, 25 (b) 50, 60, 70, 80, 90 (c) 250, 350, 450, 550, 650

(d) 500, 450, 400, 350, 300