EASY

MATH

Class 2

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Preface

Our "Easy Math" series is designed in accordance with the revised syllabus prescribed by the ministry of education for primary schools in Pakistan.

In this series, various modern methods and techniques have been used to inculcate in the young children for the basic mathematical concepts. The approach of treating the subject matter from concert and pictorial to abstract, being still effective in teaching has been maintained in our series.

Each concept has been allocated proper space for incorporation of your colour lively illustrations. Digital pictures and diagram are added which give appreciable look to this series.

The series is designed in such a way that even a less experience teacher can easily teach the tough topics of mathematic. Superior paper and high quality printing makes the series acceptable for any prestigious institution.

All possible human efforts are made to make this series error free, but still improvement can be made. All suggestions in this regard are welcomed.

Publishers.

Contents

Unit 1

Number and Place Value

Student's Learning Outcomes:

After studying this unit, students will be able to:

- read and write 3-digit numbers.
- compare numbers with each other.
- find place value of given number.
- understand the concept of ordinal numbers.

The value of a digit depends on the place it occurs. This is known as place value. Place value can be read with the help of a table or an abacus.

Method 1:

➧ Find the place value of 43.

In this table, 3 is in ones column so its value is 3 ones and 4 is in tens column so its value is 4 tens or forty.

Tens	Ones
4	3

Method 2:

➧ Find the place value of 57 with the help of abacus.

(Abacus is used for addition and finding place value.) Right most rod is used for ones. Here, rod on right side has 7 beads, so its value is 7 ones. Rod on left side has 5 beads, so its value is 5 tens.

Teacher's Note:

Tell the students about the importance of different places and their values.

Example Write the place value of each digit.

a 72

Sol:

Tens	Ones
7	2

2 is at ones place, so it has the value of 2 ones or 2 and 7 is at tens place, so it has value of 7 tens or seventy.

b 51

Sol:

Tens	Ones
5	1

1 is at ones place, so it has the value of 1 ones or 1 and 5 is at Tens place, so it has value of 5 tens or fifty.

Activity 1 Write the place value of each digit.

a.	32	=	3 tens and 2 ones	b.	45	=	4 tens and 5 ones
c.	36	=	3 tens and 6 ones	d.	15	=	1 tens and 5 ones
e.	42	=	4 tens and 2 ones	f.	75	=	7 tens and 5 ones
g.	50	=	5 tens	h.	61	=	6 tens and 1 ones
i.	67	=	6 tens and 7 ones	j.	93	=	9 tens and 3 ones

Activity 2 Write the place values of circled digits only. e.g.

a.	7(6)	=	6 Units	b.	1(5)	=	5 Units
c.	(8)7	=	8 Tens	d.	(2)2	=	2 Tens
e.	3(9)	=	9 Units	f.	3(3)	=	3 Units
g.	(4)2	=	4 Tens	h.	(6)9	=	6 Tens
i.	3(0)	=	0 Units	j.	7(9)	=	9 Units

Ordinal Numbers

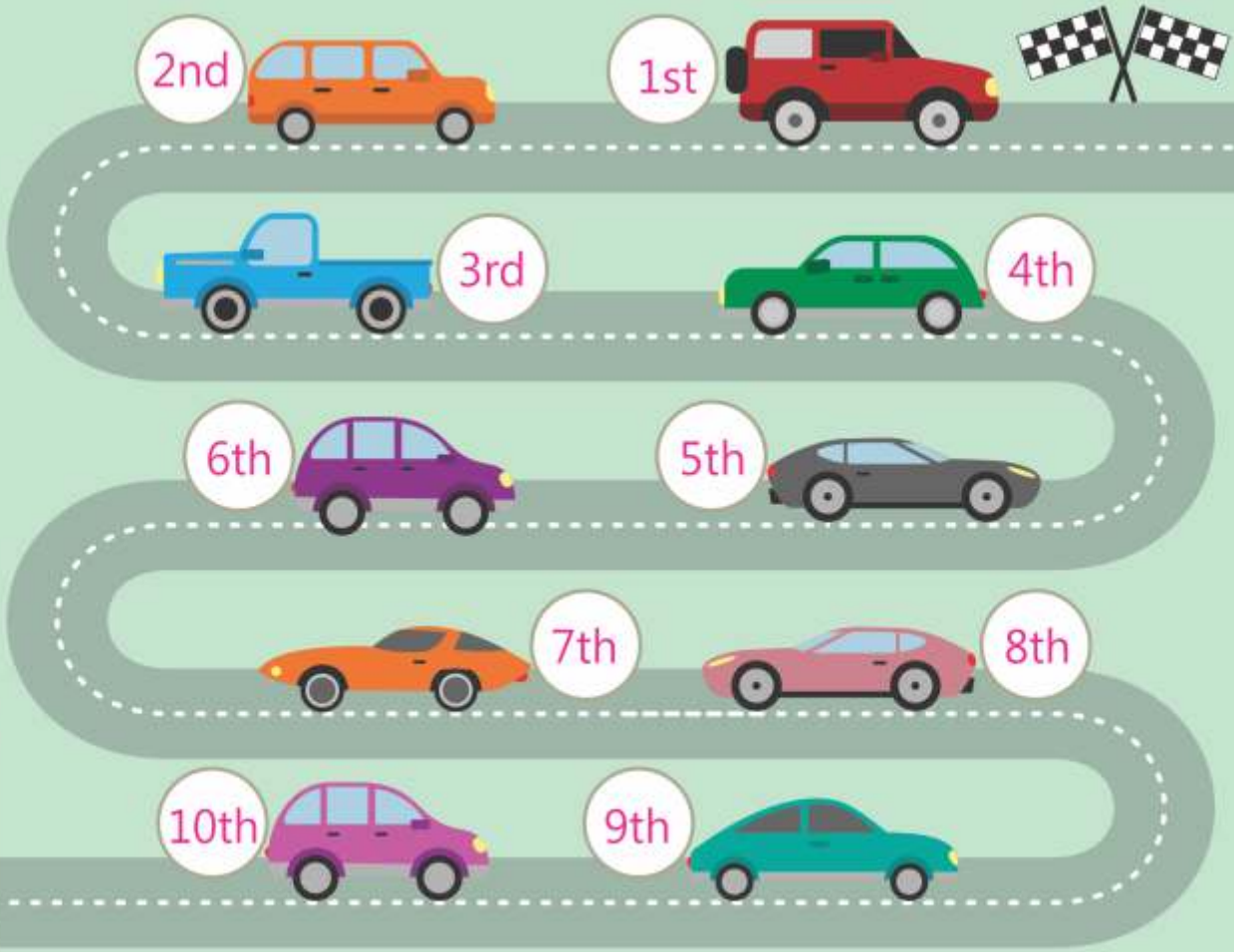
In our daily life, we usually use digits or numbers but in some situations ordinal numbers are used. For example, in a race, Ali won the race and Fahad stood runners-up while Asad is on the 3rd. We shall say that, Ali is first and Fahad is

second while Asad is third. These first, second and third numbers are called ordinal numbers. Some ordinal numbers and their names are given below.

Numbers	Full Names	Short Names
1	First	1st
2	Second	2nd
3	Third	3rd
4	Fourth	4th
5	Fifth	5th

Numbers	Full Names	Short Names
6	Sixth	6th
7	Seventh	7th
8	Eight	8th
9	Ninth	9th
10	Tenth	10th

Activity 1 Write the ordinal numbers according to positions of cars.



Place Value of 3-Digit Numbers

When a third digit is written to the left side of a 2-digit number, it becomes a 3-digit number. This third digit is called hundreds.

For example: In 234, the place value of each digit is:

4 is at ones place so, its value is 4

3 is at tens place so, its place value is 30

2 is at hundreds place so, its place value is 200

H	T	O
2	0	0
	3	0
		4
2	3	4

It can also be written in expanded form as 234 = 200 + 30 + 4

Remember 234 is read as two hundred thirty four.

Activity 1

Write the place value of circled digits only: e.g.

a. ③24 = 300

b. 75④ = 4

c. 2⑤6 = 50

d. 69② = 2

e. 405 = 5

f. 3③3 = 30

g. 6⑦8 = 70

h. 9⓪7 = 00

i. ⑨13 = 900

j. ⑧73 = 800

Activity 2

Write the given digits in expanded form: e.g.

a. 436 = 400 + 30 + 6

b. 206 = 200 + 00 + 6

c. 999 = 900 + 90 + 9

d. 348 = 300 + 40 + 8

e. 691 = 600 + 90 + 1

Activity 3

Write the names of given numbers.

(First one is done for you)

679 = Six hundred seventy nine

a. 564 = Five hundred sixty four

b. 268 = Two hundred sixty eight

c. 980 = Nine hundred eighty

d. 300 = Three hundred

e. 405 = Four hundred five

Skip Counting

In some situations, we need numbers but with a continuous gap. Such type of numbering is called skip counting.

For example:

Skip counting of 5, starting from digit 5 will be

5, 10, 15, 20, 25 ..... etc.

Example:

Write next five numbers, skipping 4 and starting with the digit 2.

Solution:

2 6 10 14 18 22

Activity 1

Write next five numbers by skip counting.

a. (Skip counting by 3) 5, 8, 11, 14, 17, 20

b. (Skip counting by 4) 6, 10, 14, 18, 22, 26

c. (Skip counting by 5) 1, 6, 11, 16, 21, 26

d. (Skip counting by 6) 6, 12, 18, 24, 30, 36

e. (Skip counting by 10) 10, 20, 30, 40, 50, 60

f. (Skip counting by 20) 30, 50, 70, 90, 110, 130

Activity 2

Write next five numbers by skipping 10 numbers.

a.	123 =	133	143	153	163	173
b.	304 =	314	324	334	344	354
c.	516 =	526	536	546	556	566
d.	637 =	647	657	667	677	687
e.	484 =	494	504	514	524	534

Activity 3

Write the numbers of the following numbers names and write next 4 numbers by skipping 4 numbers.

a.	Four hundred thirty one	431	435	439	443	447
b.	Six hundred twenty nine	629	633	637	641	645
c.	Five hundred seventy	570	574	578	582	586
d.	Seven hundred seventy	770	774	778	782	786
e.	Eight hundred eighty eight	888	892	896	900	904

Activity 4

Complete the given sequence.

a.	76	80	84	88	92	96
b.	31	41	51	61	71	81
c.	22	32	42	52	62	72
d.	1	11	21	31	41	51
e.	23	28	33	38	43	48
f.	50	55	60	65	70	75
g.	16	24	32	40	48	56

Exercise

1 Complete the following.

		H	T	U			H	T	U
a.	432	4	3	2	b.	654	6	5	4
c.	215	2	1	5	d.	879	8	7	9
e.	506	5	0	6	f.	741	7	4	1
g.	877	8	7	7	h.	953	9	5	3
i.	468	4	6	8	j.	356	3	5	6

2 Write the place values of circled digits.

a. 1(2)3 — 20
b. 40(5) — 5
c. (3)40 — 300
d. 5(8)8 — 80
e. 25(8) — 8
f. (1)03 — 100
g. 8(0)9 — 00
h. 4(5)7 — 50
i. (4)67 — 400
j. 86(3) — 3

3 Write the number names of given numbers.

a. 453 Four hundred fifty three
b. 402 Four hundred two
c. 111 One hundred eleven
d. 345 Three hundred fourty five
e. 240 Two hundred fourty
f. 836 Eight hundred thirty six
g. 557 Five hundred fifty seven
h. 692 Six hundred ninety two
i. 894 Eight hundred ninety four
j. 999 Nine hundred ninety nine

4 Write these in figure.

a. One hundred ten — 110
b. Two hundred two — 202
c. Four hundred thirty one — 431
d. Eight hundred eight — 808
e. Seven hundred seventy six — 776

5 Write these number by skipping 10.

a. 1, 11, 21 , 31 , 41 , 51 , 61 , 71 , 81

b. 5, 15, 25 , 35 , 45 , 55 , 65 , 75 , 85

c. 10, 20, 30 , 40 , 50 , 60 , 70 , 80 , 90

d. 13, 23, 33 , 43 , 53 , 63 , 73 , 83 , 93

e. 18, 28, 38 , 48 , 58 , 68 , 78 , 88 , 98

6 Write the missing numbers.

(Judge the skipping numbers by yourself)

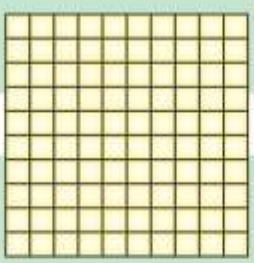
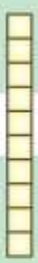
a. 8, 12, 16 , 20 , 24 , 28

b. 7, 17 27 , 37 , 47 , 57 , 67

c. 17 , 20, 23, 26 , 29 , 32 , 35

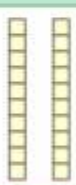
d. 38 , 43 , 48, 53, 58 , 63

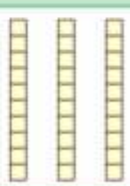
e. 30, 35 , 40 , 45 , 50 , 55

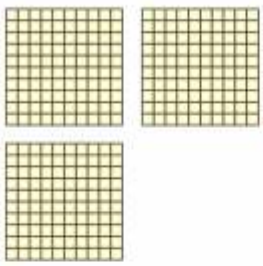
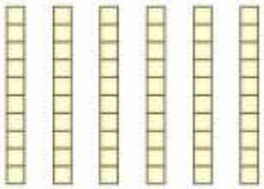
7 If  = 100,  = 10 and □ is = 1, then

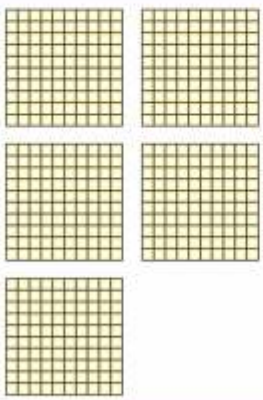
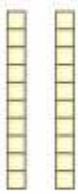
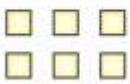
Write the numbers after counting them.

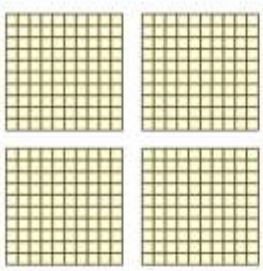
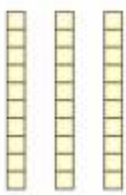
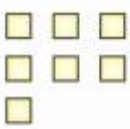
(one is done for you)

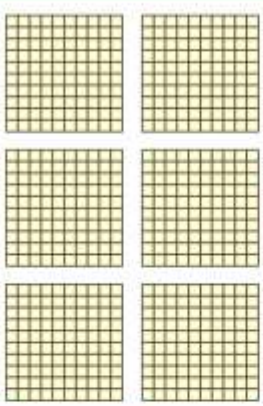
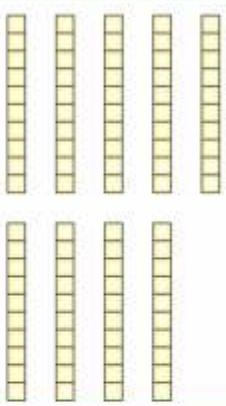
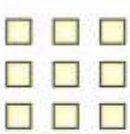
a.  100 +  20 + □ □ □ 3 = 123

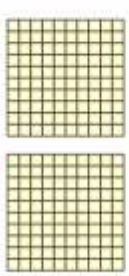
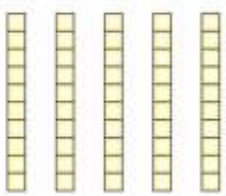
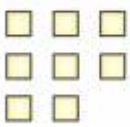
b.  100 +  30 + □ □ □ □ □ 5 = 135

c.  +  + □ = 361

d.  +  +  = 526

e.  +  +  = 437

f.  +  +  = 699

g.  +  +  = 258

Unit 2

Addition and Subtraction

Student's Learning Outcomes:

After studying this unit, students will be able to:

- subtract 3-digit numbers easily.
- solve questions related to borrowing.
- understand and solve word problems regarding addition and subtraction.

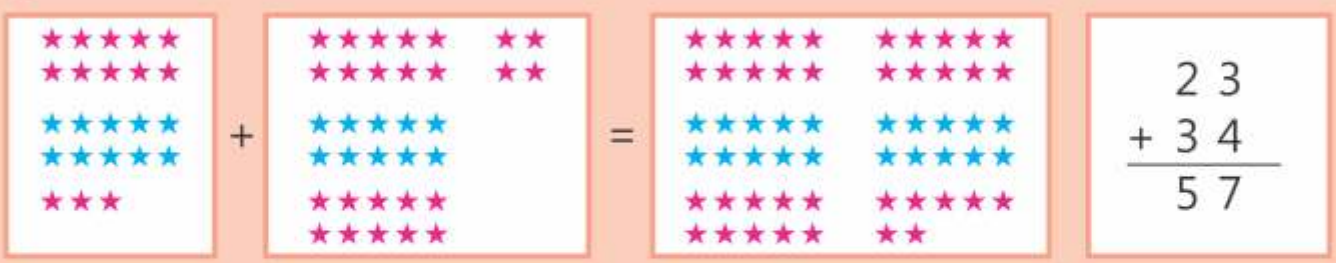
Addition of 2-Digit Numbers (without carry)

While adding 2-digit numbers without carry always remember:

- Digit at ones place of first number is added to the digit at ones place of second number.
- Digit at tens place of first numbers is added to the digit at tens place of second number.

Example Add 23 and 34

Method 1 Use counting method to add:



23 Stars	+	34 Stars	=	57 Stars

$$\begin{array}{r} 23 \\ +\ 34 \\ \hline 57 \end{array}$$

Teacher's Note:

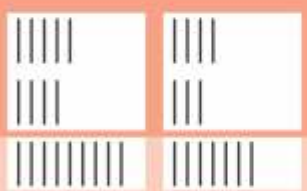
Especially guide the students in understanding of word problems of addition and subtraction.

Method 2:

	Tens	Ones
	2	3
+	3	4
	5	7

Example Add 54 in 43

	Tens	Ones
	5	4
+	4	3
	9	7



Addition of 2-Digit Numbers
(with carry)

While adding 2 digit numbers always remember.

i. Add digit at ones place of first number to digit at ones place of second number. If sum of two digits is more than 9 then write the ones digit and carry the tens digit to the top of already written ten's place digits.

ii. Now add all of these numbers.

Example 1 Add 46 and 36

Solution:

	Tens	Ones
	(1)	
	4	6
+	3	6
	8	2

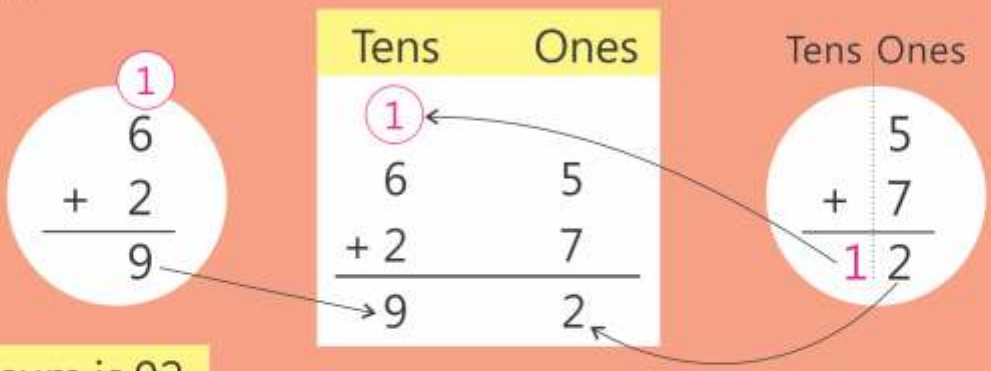
	Tens	Ones
	(1)	
	4	
+	3	
	8	

	Tens	Ones
		6
+		6
	1	2

So the answer is 82

Example 2 Add 65 in 27

Solution:



So the sum is 92.

Addition of 3-Digit Numbers (without carry)

While adding 3 digit numbers, remember:

i. Ones place digit is added in ones place digit.

ii. Tens place digit is added in tens place digit.

iii. Hundreds place digit is added in hundreds place digit.

Example 1 Solve 346 + 422

Solution:

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

H T O

Rough Work

3 4 6
+ 4 + 2 + 2
7 6 8

Example 2 Find the sum of 234 and 432

Solution:

H	T	O
2	3	4
+ 4	3	2
6	6	6

H T O

Rough Work

2 3 4
+ 4 + 3 + 2
6 6 6

Addition of 3-Digit Numbers (with carry)

This is illustrated with examples:

Example 1 Add 364 and 256

Solution:

	H	T	O
	(1)	(1)	
	3	6	4
+	2	5	6
	6	2	0

Rough Work

	(1)	(1)	
	3	6	4
+	2	5	6
	6	12	10

Example 2 Solve the following 389 + 278

Solution:

	H	T	O
	(1)	(1)	
	3	8	9
+	2	7	8
	6	6	7

Rough Work

	(1)	(1)	
	3	8	9
+	2	7	8
	6	16	17

Activity 1 Add the following. (without carry)

(a)

T	O
3	2
+ 4	6
7	8

(b)

T	O
4	5
+ 3	2
7	7

(c)

T	O
2	6
+ 6	3
8	9

(d)

T	O
4	3
+ 2	5
6	8

(e)

T	O
3	5
+ 2	4
5	9

(f)

T	O
2	4
+ 6	3
8	7

(g)
H	T	O
	6	3
+	2	2
	8	5

(h)
H	T	O
	5	4
+	3	4
	8	8

(i)
H	T	O
	3	1
+	4	6
	7	7

(j)
H	T	O
	8	2
+	1	7
	9	9

(k)
H	T	O
	2	4
+	5	4
	7	8

(l)
H	T	O
	3	8
+	4	1
	7	9

Activity 2

Add the following. (with carry)

(a)
T	O
4	6
+ 3	5
8	1

(b)
T	O
4	2
+ 2	8
7	0

(c)
T	O
2	8
+ 3	3
6	1

(d)
T	O
3	6
+ 3	6
7	2

(e)
T	O
7	3
+ 1	8
9	1

(f)
T	O
5	5
+ 2	5
8	0

(g)
H	T	O
3	2	7
+ 4	4	7
7	7	4

(h)
H	T	O
3	4	2
+ 5	3	9
8	8	1

(i)
H	T	O
2	3	9
+ 4	3	9
6	7	8

(j)
H	T	O
3	4	6
+ 5	6	9
9	1	5

(k)
H	T	O
2	7	8
+ 5	3	4
8	1	2

(l)
H	T	O
3	5	5
+ 4	6	8
8	2	3

Exercise 2.1

1. Add the following. (without carry)

(a) 32 + 26 = 58

(b) 23 + 33 = 56

(c) 25 + 44 = 69

(d) 81 + 18 = 99

(e) 40 + 30 = 70

(f) 50 + 44 = 94

2. Add the following. (with carry)

(a) 36 + 44 = 80

(b) 45 + 35 = 80

(c) 27 + 36 = 63

(d) 47 + 47 = 94

(e) 35 + 46 = 81

(f) 77 + 18 = 95

3. Add these 3-digit numbers. (without carry)

(a) 456 + 321 = 777

(b) 234 + 234 = 468

(c) 246 + 322 = 568

(d) 447 + 331 = 778

(e) 812 + 136 = 948

(f) 409 + 240 = 649

4. Add these 3-digit numbers. (with carry)

(a)
$$\begin{array}{r} 345 \\ +\ 268 \\ \hline 613 \end{array}$$

(b)
$$\begin{array}{r} 408 \\ +\ 493 \\ \hline 901 \end{array}$$

(c)
$$\begin{array}{r} 368 \\ +\ 242 \\ \hline 610 \end{array}$$

(d)
$$\begin{array}{r} 245 \\ +\ 366 \\ \hline 611 \end{array}$$

(e)
$$\begin{array}{r} 444 \\ +\ 357 \\ \hline 801 \end{array}$$

(f)
$$\begin{array}{r} 308 \\ +\ 299 \\ \hline 607 \end{array}$$

(g)
$$\begin{array}{r} 286 \\ +\ 348 \\ \hline 634 \end{array}$$

(h)
$$\begin{array}{r} 147 \\ +\ 147 \\ \hline 294 \end{array}$$

(i)
$$\begin{array}{r} 495 \\ +\ 306 \\ \hline 801 \end{array}$$

Subtraction of 2-Digit Numbers (without borrow)

In subtraction same rules are used which are used in addition.

i. Subtract ones from ones,

ii. Subtract tens from tens.

Example Subtract the following:

Solution:

a. 45 − 23

T	O
4	5
− 2	3
2	2

b. 64 − 24

T	O
6	4
− 2	4
4	0

Activity 1 Subtract the following.

(a)
T	O
5	6
– 2	4
3	2

(b)
T	O
4	8
– 2	6
2	2

(c)
T	O
4	7
– 3	2
1	5

(d)
T	O
8	9
– 4	4
4	5

(e)
T	O
8	8
– 4	2
4	6

(f)
T	O
5	5
– 3	3
2	2

Subtraction of 2-Digit Numbers (with borrow)

If the number at ones place of first number is smaller than number at ones place of second number, then we borrow 1 from tens place digit. Because we borrow 1 from tens place, so its value is 10, at ones place. Now add this 10 in ones place number of first number and then subtract. This is explained with example.

Example 1 Subtract 57 from 84.

Solution:

	T	O
	(7)	(10)
	8	4
–	5	7
	2	7

Explanation

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

Step 1: 7 cannot be subtracted from 4, so borrow 1 from tens place digit which is 8.

Step 2: When 1 from 8 is reached at ones place it becomes 10 (because its place value at tens place is 10)

Step 3: Now add 10 and 4 which is 14.

Step 4: Now subtract 7 from 14 which is 7.

Step 5: After taking 1 from 8, 7 is left there.

Step 6: Now subtract 5 from 7 which is 2.

Step 7: The answer is 27.

Example 2 Solve 48 – 29

Solution:

	T	O
	(3)	(10)
	4	8
–	2	9
	1	9

Explanation

Step 3	Step 2	Step 1
3	1 8	1 0
– 2	– 9	+ 8
1	9	1 8

Activity Subtract the following.

(a)

T	O
4	3
– 2	4
1	9

(b)

T	O
5	6
– 2	7
2	9

(c)

T	O
9	3
– 2	8
6	5

(d)

T	O
8	6
– 3	8
4	8

(e)

T	O
5	5
– 3	7
1	8

(f)

T	O
6	1
– 1	6
4	5

Subtraction of 3-Digit Numbers (without borrow)

This subtraction is same as we did in 2-digit subtraction. Let us learn with the help of examples.

Example 1

Subtract 345 from 689

$$\begin{array}{r} 689 \\ -\ 345 \\ \hline 344 \end{array}$$

Example 2

Subtract 487 from 237

$$\begin{array}{r} 487 \\ -\ 237 \\ \hline 250 \end{array}$$

Activity Solve these.

(a) $\begin{array}{r} 689 \\ -\ 234 \\ \hline 455 \end{array}$

(b) $\begin{array}{r} 548 \\ -\ 228 \\ \hline 320 \end{array}$

(c) $\begin{array}{r} 767 \\ -\ 352 \\ \hline 415 \end{array}$

(d) $\begin{array}{r} 898 \\ -\ 394 \\ \hline 504 \end{array}$

(e) $\begin{array}{r} 999 \\ -\ 456 \\ \hline 543 \end{array}$

(f) $\begin{array}{r} 678 \\ -\ 321 \\ \hline 357 \end{array}$

(g) $\begin{array}{r} 654 \\ -\ 321 \\ \hline 333 \end{array}$

(h) $\begin{array}{r} 782 \\ -\ 561 \\ \hline 221 \end{array}$

(i) $\begin{array}{r} 554 \\ -\ 333 \\ \hline 221 \end{array}$

(j) $\begin{array}{r} 767 \\ -\ 453 \\ \hline 314 \end{array}$

(k) $\begin{array}{r} 981 \\ -\ 650 \\ \hline 331 \end{array}$

(l) $\begin{array}{r} 578 \\ -\ 426 \\ \hline 152 \end{array}$

Subtraction of 3-Digit Numbers (with borrow)

Let us learn with the help of examples.

Example 1 Subtract 487 form 934.

Solution.

H	T	O
	10	10
8	1 2	1
~~9~~	~~3~~	4
− 4	8	7
4	4	7

Explanation

	10	10
	+ 2	+ 4
8	12	14
− 4	− 8	− 7
4	4	7

Example 2 Subtract 246 form 625.

Solution.

H	T	O
	10	10
5	1	1
~~6~~	~~2~~	5
− 2	4	6
3	7	9

Explanation

	10	10
	+ 1	+ 5
5	11	15
− 2	− 4	− 6
3	7	9

Exercise

1. Subtract the following. (without borrow)

(a) 49 − 23 = 26

(b) 48 − 36 = 12

(c) 89 − 64 = 25

(d) 77 − 43 = 34

(e) 40 − 20 = 20

(f) 55 − 44 = 11

2. Subtract the following. (without borrow)

(a) 246 − 135 = 111

(b) 567 − 307 = 260

(c) 268 − 207 = 061

(d) 666 − 345 = 321

(e) 566 − 234 = 332

(f) 234 − 103 = 131

3. Solve the following. (with borrow)

(a) 43 − 28 = 15

(b) 83 − 26 = 57

(c) 91 − 38 = 53

(d) 75 − 47 = 28

(e) 66 − 29 = 37

(f) 83 − 34 = 49

4. Solve the following. (with borrow)

(a) 632 − 244 = 388

(b) 832 − 265 = 567

(c) 734 − 228 = 506

(d) 745 − 347 = 398

(e) 643 − 256 = 387

(f) 567 − 378 = 189

Word Problems

In our daily life, we face many situations when we have to do the addition or subtraction.

For example, On Eid Hamid got Rs. 245 as eidi and his brother Hameed got Rs. 305. What is the total amount both got?

To solve such problems we write them on paper as:

$$\begin{array}{lcr} & & \overset{1}{} \\ \text{Hamid got} & = & \text{Rs. } 2\,4\,5 \\ \text{Hameed got} & = & +\text{ Rs. } 3\,0\,5 \\ \text{Total Eidi} & = & \text{Rs. } 5\,5\,0 \end{array}$$

Example 1 Farooq has 137 stamps. His friend Fawad gives 347 stamps more. How many stamps does he have now?

Solution:

$$\begin{array}{lcr} & & \overset{1}{} \\ \text{Stamps Farooq has} & = & 1\,3\,7 \\ \text{Fawad gives} & = & +\,3\,4\,7 \\ \text{Total stamps} & = & 4\,8\,4 \end{array}$$

Example 2 Ali has 567 rupees, he spends 328 rupees. How many rupees does he have now?

Solution:

$$\begin{array}{lcr} & & \overset{5}{} \overset{10}{} \\ \text{Ali has} & = & \text{Rs. } 5\,\cancel{6}\,7 \\ \text{He spends} & = & -\text{Rs. } 3\,2\,8 \\ \text{Remaining} & = & \text{Rs. } 2\,3\,9 \end{array}$$

Exercise 2.3

1. There are 434 oranges and 336 apples in a shop. How many fruits are there?

2. Eman has 219 cards. Fatima has 349 cards. Find the total cards.

3. There are 336 chairs in primary section of a school and 492 chairs in middle sections of the school. Find the total chairs.

4. 757 mobile phones were made in a factory in one week and 238 phones were made in second week. How many mobiles were made in both weeks.

5. In a school of 256 students, 132 have pets. How many students do not have any pet?

6. Ali had 837 rupees. He spent 259 rupees. How many rupees does he have now?

7. In a school library, there were 921 books. Students borrowed 449 books. How many books are remaining now?

8. A factory manufactures 670 cars in a year. It sells 392 cars. How many cars are yet to be sold?

Solve Here

```
  434
+ 336
  770
```

```
  219
+ 349
  568
```

```
  336
+ 492
  828
```

```
  757
+ 238
  995
```

```
  256
- 132
  124
```

```
  837
- 259
  578
```

```
  921
- 449
  472
```

```
  670
+ 392
  278
```

Unit 3

Tables

Tables are very important for multiplication and division. Here some tables are given, read and learn them by heart. So you can easily solve questions of multiplication and division.

TABLE of 2

2	x	1	=	2
2	x	2	=	4
2	x	3	=	6
2	x	4	=	8
2	x	5	=	10
2	x	6	=	12
2	x	7	=	14
2	x	8	=	16
2	x	9	=	18
2	x	10	=	20

TABLE of 3

3	x	1	=	3
3	x	2	=	6
3	x	3	=	9
3	x	4	=	12
3	x	5	=	15
3	x	6	=	18
3	x	7	=	21
3	x	8	=	24
3	x	9	=	27
3	x	10	=	30

TABLE of 4

4	x	1	=	4
4	x	2	=	8
4	x	3	=	12
4	x	4	=	16
4	x	5	=	20
4	x	6	=	24
4	x	7	=	28
4	x	8	=	32
4	x	9	=	36
4	x	10	=	40

TABLE of 5

5	x	1	=	5
5	x	2	=	10
5	x	3	=	15
5	x	4	=	20
5	x	5	=	25
5	x	6	=	30
5	x	7	=	35
5	x	8	=	40
5	x	9	=	45
5	x	10	=	50

TABLE of 6

6	x	1	=	6
6	x	2	=	12
6	x	3	=	18
6	x	4	=	24
6	x	5	=	30
6	x	6	=	36
6	x	7	=	42
6	x	8	=	48
6	x	9	=	54
6	x	10	=	60

TABLE of 7

7	x	1	= 7
7	x	2	= 14
7	x	3	= 21
7	x	4	= 28
7	x	5	= 35
7	x	6	= 42
7	x	7	= 49
7	x	8	= 56
7	x	9	= 63
7	x	10	= 70

TABLE of 8

8	x	1	= 8
8	x	2	= 16
8	x	3	= 24
8	x	4	= 32
8	x	5	= 40
8	x	6	= 48
8	x	7	= 56
8	x	8	= 64
8	x	9	= 72
8	x	10	= 80

TABLE of 9

9	x	1	= 9
9	x	2	= 18
9	x	3	= 27
9	x	4	= 36
9	x	5	= 45
9	x	6	= 54
9	x	7	= 63
9	x	8	= 72
9	x	9	= 81
9	x	10	= 90

TABLE of 10

10	x	1	= 10
10	x	2	= 20
10	x	3	= 30
10	x	4	= 40
10	x	5	= 50
10	x	6	= 60
10	x	7	= 70
10	x	8	= 80
10	x	9	= 90
10	x	10	= 100

Practice:

Fill in the blanks with correct answer.

- 2 x 4 = 8
- 2 x 6 = 12
- 3 x 6 = 18
- 3 x 8 = 24
- 4 x 4 = 16
- 4 x 9 = 36
- 5 x 3 = 15
- 5 x 6 = 30
- 6 x 6 = 36
- 6 x 9 = 54
- 7 x 2 = 14
- 7 x 7 = 49
- 8 x 2 = 16
- 8 x 4 = 32
- 8 x 6 = 48
- 8 x 8 = 64
- 9 x 2 = 18
- 9 x 7 = 63
- 10 x 3 = 30
- 10 x 8 = 80

Unit 4

Multiplication and Division

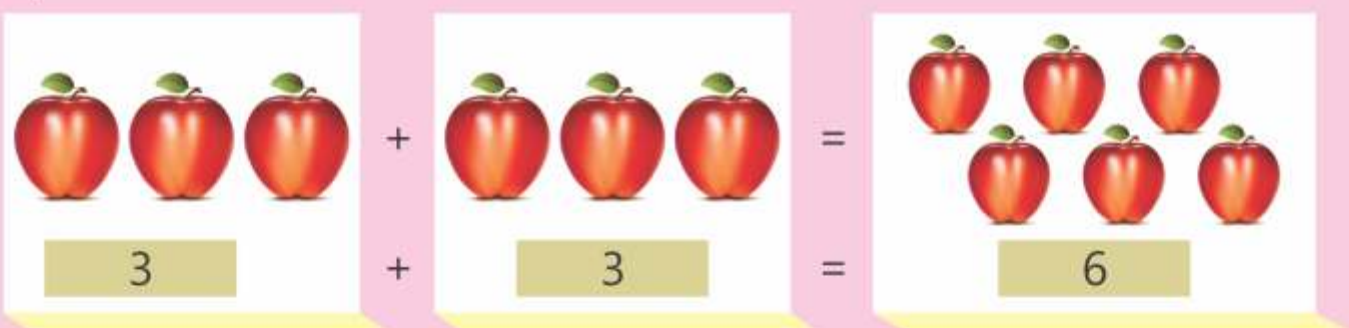
Student's Learning Outcomes:

After studying this unit, students will be able to:

- learn about process of multiplication.
- know about various methods of division.
- understand relationship between multiplication and division.
- learn about terms used in division.

Multiplication

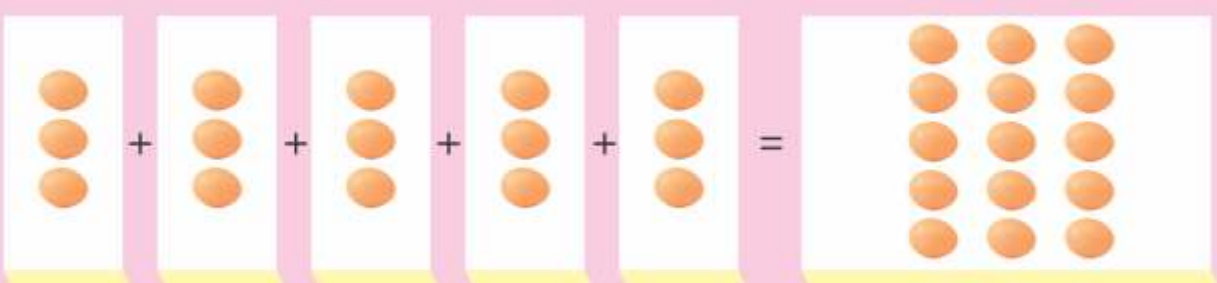
Multiplication is just like repeated addition. If we add 3 two times then we write 3 + 3. Its answer is 6. We can represent it with the help of pictures.



In multiplication it is written as:

3 x 2 = 6

Consider another example:



3 + 3 + 3 + 3 + 3 = 15

or 3 x 5 = 15

From above example, we learn that adding 3, five times is same as multiplying 3 with 5.

(Look at the table of 3 on page 27)

Thus we can say multiplication is an addition process of same digits or numbers. For multiplication a sign of 'x' is used.

Consider the following examples:

2 x 2 = 4, It is read as 2 times 2 is equal to 4.

2 x 3 = 6, It is read as 2 times 3 is equal to 6.

2 x 4 = 8, It is read as 2 times 4 is equal to 8.

and so on.

Activity 1 Fill in the boxes. (First one is done for you.)

a.	6 + 6 =	12	or	6 x 2 =	12
b.	4 + 4 =	8	or	4 x 2 =	8
c.	3 + 3 + 3 =	9	or	3 x 3 =	9
d.	5 + 5 + 5 =	15	or	5 x 3 =	15
e.	6 + 6 + 6 + 6 =	24	or	6 x 4 =	24

Example 1

2 cakes are in a plate.

2 plates are in total.

How many cakes are there?

They are 2 x 2 = 4

Example 2

3 fish are in a fish tank.

4 fish tanks are in total.

How many fish are there in all?

They are 4 x 3 = 12

OR

They are 3 x 4 = 12

Example 3

10 boys in a classroom.
4 classrooms are in total.
How many boys are there in all?
They are 10 x 4 = 40
OR
They are 4 x 10 = 40

Exercise

1. Fill in the blanks. (you can get help from tables)

a. 2 x 3 = 6
b. 5 x 4 = 20
c. 6 x 1 = 6
d. 6 x 6 = 36
e. 2 x 4 = 8
f. 4 x 9 = 36
g. 3 x 3 = 9
h. 9 x 3 = 27
i. 3 x 6 = 18
j. 2 x 8 = 16
k. 7 x 2 = 14
l. 5 x 3 = 15
m. 2 x 5 = 10
n. 5 x 8 = 40

2. Multiply the following.

(a) 4 x 3 = 12
(b) 3 x 5 = 15
(c) 2 x 6 = 12
(d) 7 x 3 = 21
(e) 5 x 4 = 20
(f) 5 x 6 = 30

(g) 7 x 2 = 14

(h) 7 x 7 = 49

(i) 6 x 8 = 48

(j) 8 x 4 = 32

(k) 6 x 7 = 42

(l) 9 x 7 = 63

3. Circle the correct answer.

a. Multiply 3 x 6, we get:

(i) 14 (ii) 16 **(iii) 18** (iv) 20

b. Multiply 4 x 7, we get:

(i) 24 **(ii) 28** (iii) 26 (iv) 30

c. Multiply 5 x 8, we get:

(i) 36 **(ii) 40** (iii) 44 (iv) 48

d. Multiply 6 x 9, we get:

(i) 18 (ii) 36 (iii) 48 **(iv) 54**

e. Multiply 9 x 5, we get:

(i) 15 (ii) 25 (iii) 35 **(iv) 45**

Multiplication of 2-Digit Numbers by 1-Digit Number

Step 1:

Multiply one's with one's (2 x 3)

2 x 3 = 6

	T	O
	1	3
x		2
		6

Step 2:

Now, multiply one's with ten's (2 x 1)

2 x 1 = 2

	T	O
	1	3
x		2
	2	6

Now learn from these examples:

- Multiply 23 with 3.

Step 1:

	T	O
	2	3
x		3
		9

Step 2:

	T	O
	2	3
x		3
	6	9

- Multiply 42 with 2.

Step 1:

	T	O
	4	2
x		2
		4

Step 2:

	T	O
	4	2
x		2
	8	4

Activity 1 Multiply.

- Multiply 12 with 3.

Step 1:

	T	O
	1	2
x		3
		6

Step 2:

	T	O
	1	2
x		3
	3	6

Teacher's Note:

Guide student in common pitfalls in the questions of multiplication and division.

- Multiply 11 with 7.

Step 1:

T	O
1	1
x	7
	7

Step 2:

T	O
1	1
x	7
7	7

- Multiply 12 with 4.

Step 1:

T	O
1	2
x	4
	8

Step 2:

T	O
1	2
x	4
4	8

- Multiply 34 with 2.

Step 1:

T	O
3	4
x	2
	8

Step 2:

T	O
3	4
x	2
6	8

- Multiply 24 with 2.

Step 1:

T	O
2	4
x	2
	8

Step 2:

T	O
2	4
x	2
4	8

- Multiply 33 with 3.

Step 1:

T	O
3	3
x	3
	9

Step 2:

T	O
3	3
x	3
9	9

Note:

When 0 is multiplied with any other number , the result is always 0.

OR

When any number is multiplied with 0, the result is always 0. See the following examples.

T	O
1	0
x	2
2	0

2 x 0 = 0
2 x 1 = 2

T	O
3	0
x	3
9	0

3 x 0 = 0
3 x 3 = 9

T	O
2	5
x	0
0	0

0 x 5 = 0
0 x 2 = 0

T	O
2	0
x	4
8	0

4 x 0 = 0
4 x 2 = 8

T	O
1	3
x	0
0	0

0 x 3 = 0
0 x 1 = 0

Activity 2 Solve these.

a. 3 x 0 = 0

b. 6 x 0 = 0

c. 10 x 0 = 0

d. 3 x 0 = 0

e. 5 x 0 = 0

f. 0 x 6 = 0

g. 0 x 9 = 0

h. 7 x 0 = 0

Exercise

1. Multiply the following.

(a) 13 x 3 = 39

(b) 42 x 2 = 84

(c) 34 x 2 = 68

(d) 11 x 6 = 66

(e) 24 x 2 = 48

(f) 33 x 2 = 66

(g) 44 x 2 = 88

(h) 32 x 3 = 96

(i) 41 x 2 = 82

2. Find the missing values.

a. 12 x 3 = 36

b. 13 x 3 = 39

c. 11 x 5 = 55

d. 22 x 2 = 44

e. 11 x 3 = 33

f. 11 x 8 = 88

g. 42 x 2 = 84

h. 34 x 2 = 68

3. Tick (✓) for correct answer and cross (×) for wrong.

a. 22 x 2 = 44 ✓

b. 23 x 2 = 64 ×

c. 12 x 3 = 33 ×

d. 32 x 3 = 69 ×

e. 11 x 4 = 24 ×

f. 22 x 4 = 88 ✓

g. 12 x 4 = 48 ✓

h. 22 x 3 = 69 ×

i. 14 x 2 = 26 ×

j. 12 x 3 = 36 ✓

Division

The process of making equal parts of something or a digit is called division. The sign (÷) is used for division.

Let us try to understand division process by the following example.

10 balloons are distributed among 5 children. In such a way that every one gets 2 balloons.

Mathematically it can be expressed as

- 2 balloons are given to 1st child

  10 – 2 = 8 (8 balloons left)
- 2 balloons are given to 2nd child

  8 – 2 = 6 (6 balloons left)
- 2 balloons are given to 3rd child

  6 – 2 = 4 (4 balloons left)
- 2 balloons are given to 4th child

  4 – 2 = 2 (2 balloons left)
- 2 balloons are given to 5th child

  2 – 2 = 0 (0 balloons left)

So every child get 2 balloons and all balloons are divided equally.

Remember:

Division is reverse process of multiplication.

For division ÷ and) signs are used. In last example, we divide 10 balloons among 5 children. In mathematical form it is written as $10 \div 5$ or $5\overline{)10}$. We read it as 10 divided by 5.

Example Divide 12 mangoes among 4 boys equally.

If we gave 2 mangoes to each boy then we divide only 8 mangoes and 4 mangoes will be left.

Now we gave 3 mangoes to each boy,

So all mangoes are divided between 4 boys equally. We can write it as.

$$12 \div 4 = 3$$

or

$$4\overline{)12}\ 3$$

$$\underline{12}$$

$$x$$

Note

We know

$4 \times 3 = 12$

Reverse process of it is

$12 \div 4 = 3$

Activity 1 Fill in the blanks. (first one is done for you)

a. $18 \div 6 = \underline{3}$ b. $20 \div 5 = \underline{4}$

c. $10 \div 2 = \underline{5}$ d. $16 \div 2 = \underline{8}$

e. $8 \div 2 = \underline{4}$ f. $9 \div 3 = \underline{3}$

g. $14 \div 2 = \underline{7}$ h. $12 \div 4 = \underline{3}$

i. $18 \div 9 = \underline{2}$ j. $40 \div 5 = \underline{8}$

Now learn another method of division:

$24 \div 6$ It can be written as $6\overline{)24}$

- Now remember the table of 6:

It was $6 \times 1 = 6$

$6 \times 2 = 12$

$6 \times 3 = 18$

$6 \times 4 = 24$

$$\begin{array}{r} 4 \\ 6\overline{)24} \\ -24 \\ \hline x \end{array}$$

- Here we reach at 24. Now write the middle number (4) at the top of division sign and (24) below 24.
- Now subtract 24 from 24
- It gives 0 as remainder. So, when 24 is divided by 6, its result or answer is 4.
- Now learn this process from these examples:

Example

- $$\begin{array}{r} 5 \\ 6\overline{)30} \\ -30 \\ \hline 0 \end{array}$$ $(6 \times 5 = 30)$
- $$\begin{array}{r} 4 \\ 3\overline{)12} \\ -12 \\ \hline 0 \end{array}$$ $(3 \times 4 = 12)$

- $3\overline{)18}$ → $\begin{array}{r} 6 \\ -18 \\ \hline 0 \end{array}$ (3 x 6 = 18)
- $7\overline{)42}$ → $\begin{array}{r} 6 \\ -42 \\ \hline 0 \end{array}$ (7 x 6 = 42)
- $5\overline{)40}$ → $\begin{array}{r} 8 \\ -40 \\ \hline 0 \end{array}$ (5 x 8 = 40)
- $8\overline{)64}$ → $\begin{array}{r} 8 \\ -64 \\ \hline 0 \end{array}$ (8 x 8 = 64)

Exercise

1. Divide the following.

a. 12 ÷ 4 = 3
b. 14 ÷ 2 = 7
c. 12 ÷ 6 = 2
d. 20 ÷ 4 = 5
e. 10 ÷ 5 = 2
f. 49 ÷ 7 = 7
g. 24 ÷ 3 = 8
h. 63 ÷ 7 = 9
i. 27 ÷ 3 = 9
j. 72 ÷ 8 = 9

2. Tick (✓) for correct answer and cross (×) for wrong.

a. 12 ÷ 2 = 6 ✓
b. 16 ÷ 4 =12 ×
c. 14 ÷ 2 = 8 ×
d. 20 ÷ 2 =10 ✓
e. 18 ÷ 3 = 6 ✓
f. 18 ÷ 6 = 6 ×
g. 42 ÷ 7 = 7 ×
h. 48 ÷ 6 = 9 ×
i. 60 ÷ 6 = 10 ✓
j. 70 ÷ 10 =10 ×

3. Divide the following.

(a) $2\overline{)18}$ = 9

(b) $3\overline{)24}$ = 8

(c) $4\overline{)24}$ = 6

(d) $5\overline{)30}$ = 6

(e) $6\overline{)42}$ = 7

(f) $7\overline{)56}$ = 8

(g) $8\overline{)72}$ = 9

(h) $8\overline{)40}$ = 5

(i) $9\overline{)36}$ = 4

(j) $9\overline{)81}$ = 9

(k) $7\overline{)49}$ = 7

(l) $8\overline{)48}$ = 6

(m) $5\overline{)20}$ = 4

(n) $3\overline{)27}$ = 9

(o) $8\overline{)40}$ = 5

(p) $6\overline{)54}$ = 9

(q) $7\overline{)63}$ = 9

(r) $9\overline{)63}$ = 7

Unit 5

Measurements

Student's Learning Outcomes:

After studying this unit, students will be able to:

- understand uses of different measuring units.
- learn to use bigger and smaller units.
- convert one unit into another and vice versa.
- understand the difference between bigger and smaller units.

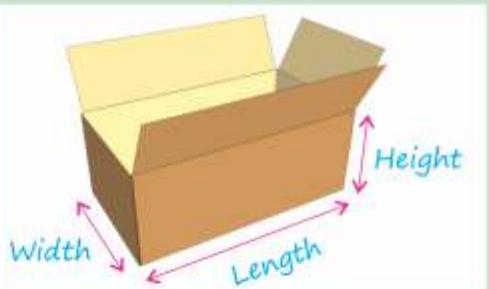
Introduction:

Measurement plays very important role in our daily life. In ancient time, different methods were used to measure different things. Some used hands, some used foot-step, etc. But correct or exact measurement did not obtained.

Now-a-days standard units for different measurements are used.

i. **Meter:**

It is used to measure the length, width or height of things.



ii. **Litre:**

It is used to measure the capacity of liquids like petrol, oil, water and milk, etc.

iii. **Kilogram:**

It is used to measure the mass of different things like vegetables, fruits, ghee and rice, etc.

Activity

Write the unit of measurements which are used in these cases.

a. For purchasing water melon ___kilogram___ is used.

b. 1.5 ___kilogram___ of mangoes are not very heavy.

c. I get 30 ___liter___ of petrol for my car.

d. My mother purchased 15 ___kilogram___ of rice.

e. The height of my father is 2 ___meter___ .

Units of Length:

If you have a geometry box, you certainly have a scale. A short scale has 15 cm (or 6 inch) and a large scale has 30 cm (or 12 inch). Look at the picture below.

It has two different scales. At one side it has 6 inches and on other side it has 15 cm (centimeter), we use both units in different situations.

Let us learn some basic units of length.

1 meter = 100 centimeter

1 centimeter = 10 millimeter

1000 meter = 1 kilometer

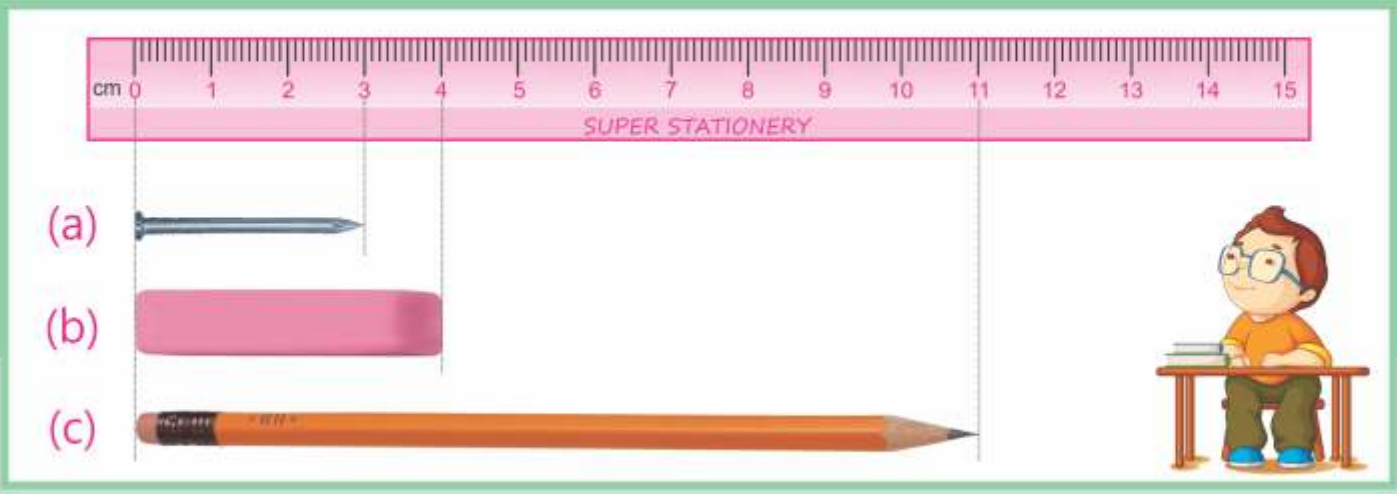
(kilometer is a bigger unit and normally it is used to measure distance.)

Teacher's Note:

Help the students in understanding that why different measure of units are used.

How to Read a Scale

Let us find length of some common objects with the help of a scale.



See that one side of these objects is at 0 of scale. Now read the numbers on the scale where other side of these objects lie.

i. Common pin is 3 cm long.

ii. Eraser is 4 cm long.

iii. Pencil is 11 cm long.

What we have to do, if we want to measure the height of a man, a wall or a tree? We have to use bigger units. Bigger unit of length is meter.

Remember 100 cm = 1 meter

(cm = centimeter and m = meter)

We can say that height of my father is 2 meters.

Height of this roof is 5 meters and width of a canal is 10 meters.

Activity

Write the names of five objects whose length is measured in meter.

Cloth	Roof	Window
Door	Table	

The biggest unit of length is kilometer. In short form it is written as km. Kilometer is used to measure long distances.

For example, Distance between cities, length of rivers and distance covered by aeroplanes.

12 inches = 1 foot

Foot are used to measure height of person, length of a table or height of a wall.

Activity Write the length of following objects.

Objects	Length in cm	Length in inch
Math Book	27.4	10.75
Drawing Book	27.4	10.75
Pencil	11	4.3
Lunch Box	17.8	7
School Diary	22.8	9

Conversion of Units of Length

1 km = 1000 m
1 m = 100 cm
1 cm = 10 mm

Example: Convert into meters.

a. 3 km

Solution:

3 km
as 1 km = 1000 m
So, 3 km = 3 x 1000 m
= 3000 m

b. 5 km

Solution:

5 km
as 1 km = 1000 m
So, 5 km = 5 x 1000 m
= 5000 m

Example: Convert into Kms.

a. 10,000 m

Solution:

10,000 m

as 1000 m = 1 km

So, 10,000 m = 10 km

(10,000 ÷ 1000 = 10)

b. 15,000 m

Solution:

15,000 m

as 1000 m = 1 km

So, 15,000 m = 15 km

(15,000 ÷ 1000 = 15)

Example: Convert meter to centimeter.

a. 4 m

Solution:

4 m

We know that

1 m = 100 cm

So, 4 m = 4 x 100 cm

= 400 cm

b. 35 m

Solution:

35 m

We know that

1 m = 100 cm

So, 35 m = 35 x 100 cm

= 3500 cm

Example: Convert centimeter to meter.

a. 200 cm

Solution:

200 cm

We know that

100 cm = 1 m

So, 200 cm = 2 m

(200 ÷ 100 = 2)

b. 2000 cm

Solution:

2000 cm

We know that

100 cm = 1 m

So, 2000 cm = 20 x 100 cm

= 20 cm

(2000 ÷ 100 = 20)

Example: Convert:

a. 7m 30 cm into cm

b. 480 cm into meter and cm

Solution:

a. 7m 30 cm

We know that 1 m = 100 cm

So, 7cm 30 cm = (7 x 100 cm) + 30 cm

= 700 + 30 cm

= 730 cm

1 km = 1000 m
1 m = 100 cm
1 cm = 10 mm

b. 480 cm

We write it as 400 cm + 80 cm

but 100 cm = 1 m, then 400 cm = 4 m

So, 4 c + 80 cm = 4 m 80 cm

Exercise

1 Solve the following. (First one is done for you)

(a) $\begin{array}{r} \overset{1}{3}\ 6\ \text{m} \\ +\ 4\ 5\ \text{m} \\ \hline 8\ 1\ \text{m} \end{array}$

(b) $\begin{array}{r} 9\ 5\ \text{m} \\ +\ 3\ 5\ \text{m} \\ \hline 1\ 3\ 0\ \text{m} \end{array}$

(c) $\begin{array}{r} 6\ 5\ \text{m} \\ +\ 3\ 0\ \text{m} \\ \hline 9\ 5\ \text{m} \end{array}$

(d) $\begin{array}{r} 4\text{m}\ \ 35\text{cm} \\ +\ 3\text{m}\ \ 25\text{cm} \\ \hline 7\text{m}\ \ 60\text{cm} \end{array}$

(e) $\begin{array}{r} 12\text{m}\ \ 40\text{cm} \\ +\ 10\text{m}\ \ 49\text{cm} \\ \hline 22\text{m}\ \ 89\text{cm} \end{array}$

(f) $\begin{array}{r} 45\text{m}\ \ 36\text{cm} \\ +\ 21\text{m}\ \ 15\text{cm} \\ \hline 66\text{m}\ \ 51\text{cm} \end{array}$

(g) $\begin{array}{r} 3\text{km}\ \ 249\text{m} \\ +\ 6\text{km}\ \ 432\text{m} \\ \hline 9\text{km}\ \ 681\text{m} \end{array}$

(h) $\begin{array}{r} 8\text{km}\ \ 404\text{m} \\ +\ 18\text{km}\ \ 466\text{m} \\ \hline 26\text{km}\ \ 870\text{m} \end{array}$

(i) $\begin{array}{r} 98\text{km}\ \ 330\text{m} \\ +\ 43\text{km}\ \ 215\text{m} \\ \hline 141\text{km}\ \ 545\text{m} \end{array}$

2 Solve the following. (First is done for you)

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

(b) $\begin{array}{r} 9\ 5\ \text{m} \\ -\ 2\ 4\ \text{m} \\ \hline 7\ 1\ \text{m} \end{array}$

(c) $\begin{array}{r} 6\ 8\ \text{m} \\ -\ 5\ 4\ \text{m} \\ \hline 1\ 4\ \text{m} \end{array}$

(d) 22m 48cm − 11m 21cm = 11m 27cm

(e) 89m 29cm − 33m 18cm = 56m 11cm

(f) 65m 71cm − 35m 21cm = 30m 50cm

(g) 88km 589m − 55km 250m = 33km 339m

(h) 75km 466m − 25km 404m = 50km 62m

(i) 98km 330m − 43km 215m = 55km 115m

3. Convert the following.

a. 4 m to cm

We know that 1 m = 100 cm

= (4 x 100 cm) = 400 cm

b. 44 m to cm

We know that 1 m = 100 cm

= (44 x 100 cm) = 4400 cm

c. 3 m 45 cm to cm

We know that 1 m = 100 cm

= (3 x 100 cm) = 300 cm

= 300 + 45 = 345 cm

d. 10 m 10 cm to cm

We know that 1 m = 100 cm

= (10 x 100 cm) = 1000 cm

= 1000 + 10 = 1010 cm

e. 3 km 456 m to m

We know that 1 km = 1000 m

= (3 x 1000 m) = 3000 m

= 3000 + 456 = 3456 m

f. 5 km 150m to m

We know that 1 km= 1000 m

= (5 x 1000 m) = 5000 m

= 5000 + 150 = 5150 m

4 Solve the following.

i. Ali's house is 1km 300 m away from Ahmad's house and Ahmad's house is 9 km 699 m away from school. How far is Ali's house from school?

$$\begin{array}{r} 9\text{km}\ \ 699\text{m} \\ +\ 1\text{km}\ \ 300\text{m} \\ \hline 10\text{km}\ \ 999\text{m} \end{array}$$

ii. Lahore is 340 km and 536m away from Multan and Islamabad is 382 km and 366 m away from Lahore. What is the distance between Multan and Islamabad?

$$\begin{array}{r} 382\text{km}\ \ 366\text{m} \\ +\ 340\text{km}\ \ 536\text{m} \\ \hline 722\text{km}\ \ 902\text{m} \end{array}$$

Units of Weight

Your school bag has books and copies. Can you guess how heavy it is? Can you also guess what is the weight of a big size water-melon? or what is the weight of an eraser?

- We usually use two basic types of units of weight, gram and kilogram.
- Grams is used to measure lesser weights. For example weight of an eraser, a pen or a geometry box. While kilogram

is used for heavy objects, for example to measure weights of apples, potatoes or mangoes.

Note that 1 kilogram = 1000 g

OR 1000 g = 1 kg

Remember short form of kilogram is kg.

Example: Convert kg to g.

a. 5 kg

Solution:

We know that

1 kg = 1000 g

so, 5 kg = 5 x 1000 g

= 5000 g

b. 35 kg

Solution:

We know that

1 kg = 1000 g

so, 35 kg = 35 x 1000 g

= 35000 g

Example: Convert the following into required units.

a. 1 kg 310 g to grams.

b. 3456 grams to kilogram and grams.

Solution:

a. 1kg 310 g

as 1 kg = 1000 g

so, 1 kg 310 g = 1000 g + 310 grams

= 1310 grams

b. 3456 grams

It can be written as 3000 g + 456g

but 1000g = 1 kg then 3000 g = 3 kg

So, 3456 grams = 3kg 456g

Activity

Weights of some fruits are given. Now, write the weight of given quantities.

Almond	Strawberry	Banana	Orange	Apple
20g	30g	70g	130g	140g

a. Weight of 10 almonds = 200g

b. Weight of 5 strawberry = 150g

c. Weight of 6 bananas = 42g

d. Weight of 7 oranges = 910g

e. Weight of 4 apples = 560g

Weight of a watermelon is 8 kg. What is the weight of 10 watermelons in grams? (If all are equal in weight)

8 x 10 = 80

1kg = 1000g

80x1000 = 80000g

Exercise

1. Convert kg to gram.

a. 4 kg We know that 1 kg= 1000 g

= (4 x 1000 g) = 4000 g

b. 6 kg

= (6 x 1000 g) = 6000 g

c. 10 kg

= (10 x 1000 g) = 10000 g

d. 12 kg

= (12 x 1000 g) = 12000 g

e. 24 kg

= (24 x 1000 g) = 24000 g

f. 100 kg

= (100 x 1000 g) = 100000 g

2. Convert kg and g to grams.

a. 1 kg 110 g We know that 1 kg = 1000 g

= (1 x 1000 g) = 1000 g

= 1000 + 110 = 1110 g

b. 1 kg 10 g

= (1 x 1000 g) = 1000 g

= 1000 + 10 = 1010 g

c. 1 kg 1 g

= (1 x 1000 g) = 1000 g

= 1000 + 1 = 1001 g

d. 3 kg 123 g

= (3 x 1000 g) = 3000 g

= 3000 + 123 = 3123 g

e. 4 kg 44 g

= (4 x 1000 g) = 4000 g

= 4000 + 44 = 4044 g

f. 10 kg 10 g

= (10 x 1000 g) = 10000 g

= 10000 + 10 = 10010 g

3. Weight of a pineapple is 1 kg and 330 g. Write its weight in grams only.

= (1 x 1000 g) = 1000 g

= 1000 + 330 = 1330 g

4. Ahmed's weight is 42kg and 365g. While weight of Asad is 36kg and 247g. What is the difference between their weights?

	42kg	365g
-	36kg	247g
	6kg	118g

Units of Capacity

To measure capacity of liquids, we use a standard unit which is called 'litre'. In short it is written as '*l*'. Its smaller unit is millitre and it is written as 'm*l*'. Milk, petrol, oil, cooking oil, etc are sold in litres, while liquid medicines, cold drink and injections are usually sold in millitres.

Remember 1 litre = 1000 ml

Example: Convert *l* to ml.

a. 8 *l*

Solution:

We know that

1 *l* = 1000 m*l*

So, 8 *l* = 8 x 1000 m*l*

= 8000 m*l*

b. 10 *l*

Solution:

We know that

1 *l* = 1000 m*l*

10 *l* = 10 x 1000 m*l*

= 10000 m*l*

Example: Convert *l* and m*l* to ml.

a. 10 *l* 10 m*l*

Solution:

We know that

1 *l* = 1000 m*l*

So, 10 *l* = 10 x 1000 m*l*

= 10000 m*l*

Hence 10 *l* 10 m*l* =

10000 m*l* + 10 m*l*

= 10010 m*l*

b. 5 *l* 500 m*l*

Solution:

We know that

1 *l* = 1000 m*l*

So, 5 *l* = 5 x 1000 m*l*

= 5000 m*l*

Hence = 5*l* 500 m*l* =

= 5000 m*l* + 500 m*l*

= 5500 m*l*

Exercise

1. Convert *l* to m*l*.

a. 15 *l*

We know that 1 *l* = 1000 m*l*

= (15 x 1000 m*l*) = 15000 m*l*

b. 19 *l*

= (19 x 1000 m*l*) = 19000 m*l*

c. 34 *l*

= (34 x 1000 m*l*) = 34000 m*l*

d. 50 *l*

= (50 x 1000 m*l*) = 50000 m*l*

e. 100 *l*

= (100 x 1000 m*l*) = 100000 m*l*

f. 1000 *l*

= (1000 x 1000 m*l*) = 1000000 m*l*

2. Convert *l* and ml to m*l*.

a. 3 *l* 30 m*l*

We know that 1 *l* = 1000 m*l*

= (3 x 1000 m*l*) = 3000 m*l*

= 3000 + 30 = 3030 m*l*

b. 3 *l* 300 m*l*

= (3 x 1000 m*l*) = 3000 m*l*

= 3000 + 300 = 3300 m*l*

c. 8 *l* 10m*l*

= (8 x 1000 m*l*) = 8000 m*l*

= 8000 + 10 = 8010 m*l*

d. 100 *l* 10 m*l*

= (100 x 1000 m*l*) = 100000 m*l*

= 100000 + 10 = 100010 m*l*

e. 5 *l* 50 m*l*

= (5 x 1000 m*l*) = 5000 m*l*

= 5000 + 50 = 5050 m*l*

f. 1 *l* 1 m*l*

= (1 x 1000 m*l*) = 1000 m*l*

= 1000 + 1 = 1001 m*l*

3. Solve these.

(a) 30*l* 72m*l* + 29*l* 24m*l* = 59*l* 96m*l*

(b) 28*l* 65m*l* + 25*l* 22m*l* = 53*l* 87m*l*

(c) 39*l* 20m*l* + 21*l* 18m*l* = 60*l* 38m*l*

(d) 75*l* 29m*l* − 24*l* 18m*l* = 51*l* 11m*l*

(e) 68*l* 55m*l* − 48*l* 25m*l* = 20*l* 30m*l*

(f) 87*l* 47m*l* − 52*l* 24m*l* = 35*l* 23m*l*

4. Tahir purchased 5 *l* and 250 m*l* milk on first day and 4 *l* 650 m*l* milk on 2nd day. How much milk did he purchase?

5*l* 250m*l*
+4*l* 650m*l*
9*l* 900m*l*

5. Tariq has 7 *l* and 450 m*l* petrol in his bike. He consumed 2*l* 350 m*l* of petrol. How much petrol is left in his bike?

7*l* 450m*l*
− 2*l* 350m*l*
5*l* 100m*l*

6. Some objects are given, write the names of quantities in which they are measured.

Unit 6

Time

Student's Learning Outcomes:

After studying this unit, students will be able to:

- read time in simple way.
- draw minute and hour hand according to given time.
- read and write the time in different ways.
- understand the terms of quarter past, half past and quarter to.

We have learnt in previous class, how to read time on a clock's face, but that was the simple work. Now we shall learn more methods to read time.

Look at the following pictures and time written below them:

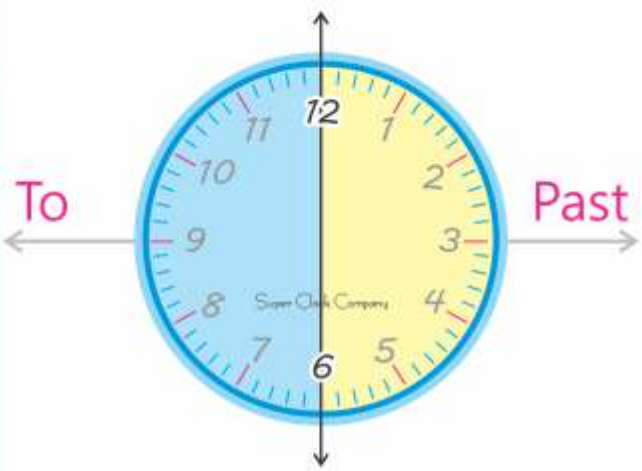
On clock 1, the time is 12:15. It is also read as quarter past 12. (Remember if 1 hour is divided in 4 equal parts, then each part has 15 minutes and it is also called quarter of an hour). Because 15 minutes have passed on clock 1, so it is read as quarter past 12.

Teacher's Note:

Guid the student to understand how minutes are calculated and how to read different times.

On clock 2, the time is 12:30. If we divide an hour in two equal parts than each part has 30 minutes and it is also called half hour. So time on clock 2 is read as Half past 12 (Because half of an hour has gone)

On clock 3, the time is 12:45. We read it as quarter to 1. (Because a quarter of an hour i-e 15 minutes are remaining in 1'O clock.)



Important

A clock can be divided in two equal halves. When minute hand is between 12 and 6, we read the time as 'past' and when the minute hand of clock is between 6 and 12, it is always read as 'to'.

For example:

In this clock the time is read as 25 minutes past 12.

In this clock the time is read as 25 minutes to 1.

Example Read and check the time in these clocks.

1:20

20 minutes past 1

2:05

5 minutes past 2

11:40

20 minutes to 12

Activity 1

Write the time in both ways.

a

2 : 2 5

25 minutes past 2

b

8 : 3 5

25 minutes to 9

c

1 0 : 4 0

20 minutes to 11

d

4 : 4 5

Quarter to 5

e

2 : 1 0

10 minutes past 2

f

2 : 5 5

5 minutes to 3

Activity 2

Draw hands on the clock to show the given time.

a

15 minutes past 6

b

10 minutes past 7

c

quarter to 9

20 minutes to 12

30 minutes past 6

25 minutes to 11

Days, Month and Year

A clock has 12 hours. When hour hand of a clock takes 2 complete round on a clock, it becomes 24 hour which make a day. We can say that

1 day = 24 hours

Combination of 7 days make a week (see table)

Combination of 4 weeks make a month

or a month has 30 days (approximately).

12 months make one year.

Months of a year with number of days are.

Calendar 2017

JANUARY

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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	

OCTOBER

M	T	W	T	F	S	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

M	T	W	T	F	S	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

M	T	W	T	F	S	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

Important Information

60 seconds = 1 minute → 60 minutes = 1 hour

24 hours = 1 day → 7 days = 1 week

30 days = 1 month → 12 months = 1 year

Exercise

1. Write the time of given clocks.

a

Quarter to 12

b

Half past 12

c

Quarter to 3

d

Quarter past 12

e

Quarter past 3

f

Quarter to 6

g

Half past 4

h

25 minutes past 10

i

10 minutes past 9

j

8 O' Clock

k

5 minutes past 11

2. Draw the hands of minutes and hours in the following clocks, according to given time.

a 

12 : 10

b 

4 : 35

c 

12 : 15

d 

6 : 30

e 

11 : 45

f 

6 : 25

g 

11 : 00

h 

3 : 20

i 

8 : 00

3. Solve this puzzle:

a. I have 24 hours. I am a Day.

b. 1 have 7 days. I am a Week.

c. I have 4 weeks. I am a Month.

d. I have 30 days. I am a Month.

e. I have 12 months. I am a Year.

f. I have 60 minutes. I am an Hour.

Unit 7

Shapes

Student's Learning Outcomes:

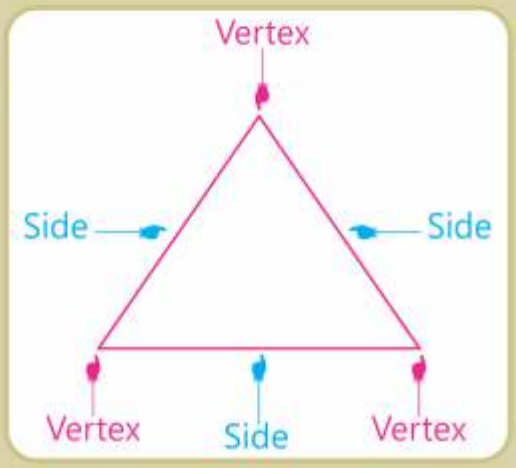
After studying this unit, students will be able to:

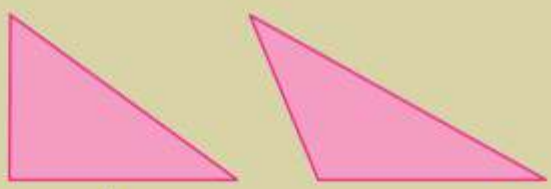
- learn about different shapes.
- compare various objects as a geometrical figure.
- explain the basic properties of different shapes.
- distinguish between similarities and differences of these shapes.

Look at the pictures given below

Triangle:

This is picture of a triangle. Triangle has three vertices and three sides. A triangle can has many shapes, such as:

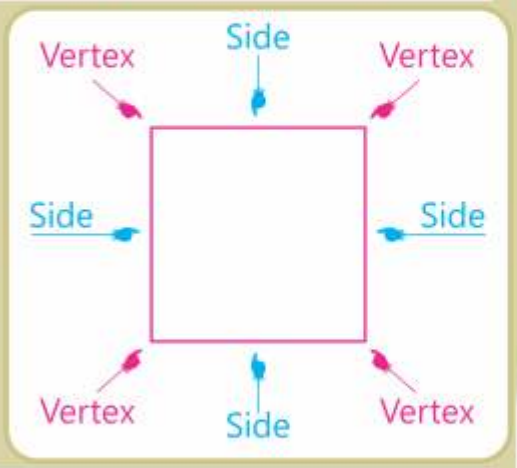




Did you remember some objects which have triangular shapes?

Square:

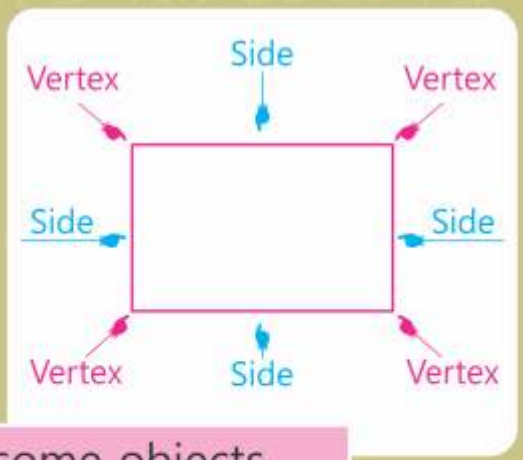
This is the picture of a square. It has 4 sides and 4 vertices. All sides of a square are always equal. A square always has only one shape.



Did you remember some objects which have square shapes?

Rectangle:

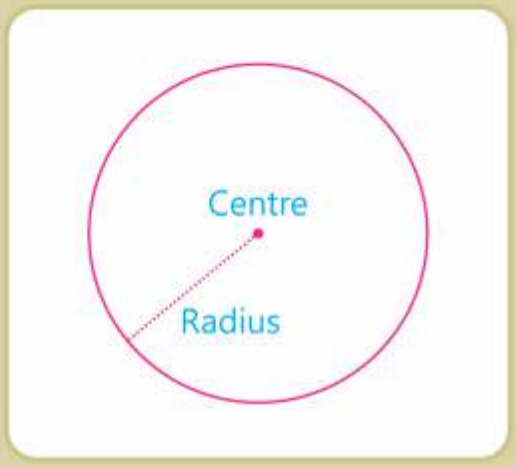
This is the picture of a rectangle. It has 4 sides and 4 vertices. Its opposite sides are parallel and equal.



Did you remember some objects which have rectangular shapes?

Circle:

This is the picture of a circle. A circle has no vertex or straight side. A circle has a centre point in its middle. The distance of centre point from circle's side is called its radius.



Did you remember some objects which have circle shapes?

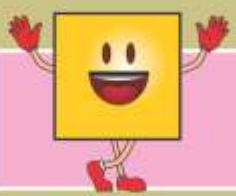
Sphere:

This is the picture of a sphere. It is just like a circle but it is round to all of its sides, a football and a basket ball are examples of a sphere.

Did you remember some objects which have sphere shapes?

Cube:

This is the picture of a cube. A cube has six sides. All six sides are square in shape. It has 6 sides and 8 vertices. A dice (Ludo ka Dana) is an example of a cube.



Did you remember some objects which have cube shapes?

Activity 1 Write the answers of the given questions.

a. A LCD has same shape as rectangle .
b. A tennis ball table has same shape as rectangle .
c. A mobile phone has same shape as rectangle .
d. A scouting camp has same shape as triangle .
e. A door has same shape as rectangle .
f. A scale has same shape as rectangle .
g. An ice cube has same shape as cube .
h. A water melon has same shape as sphere .
i. A cricket ground has same shape as circle .
j. A football ground has same shape as rectangle .

Cuboid:

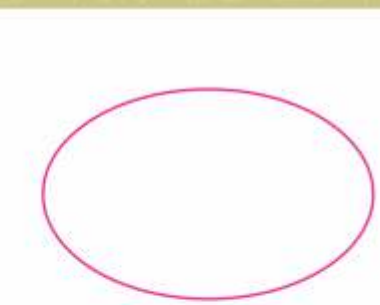
This is the picture of a cuboid. It has 6 sides and 8 vertices. Its opposite sides are same. Examples of cuboid are match box, a CPU and a brick.

Can you give two examples of cuboid?

Oval:

This is the picture of an oval. It is like an egg. It has no vertex and no exact centre point. Rugby ball is an example of an oval.

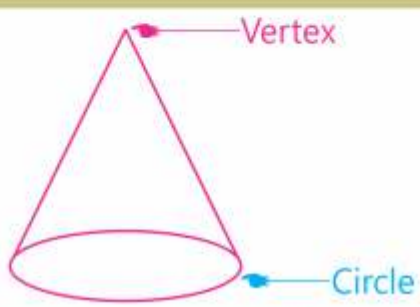
Can you give two examples of oral?



Cone:

This is the picture of a cone. It is like a birthday cap. Its one end is circular and other end is pointed like vertex.

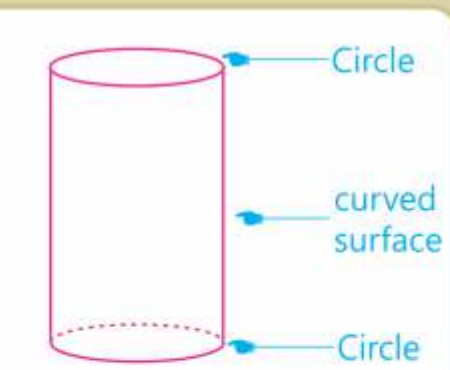
Can you give two examples of cone?



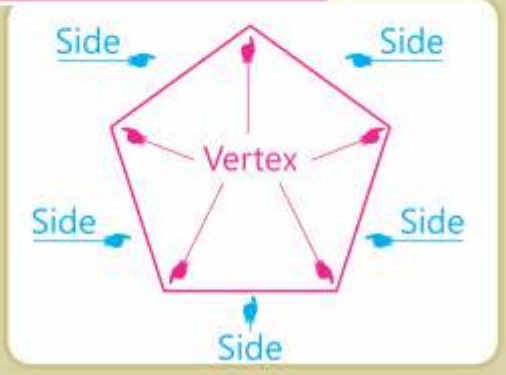
Cylinder:

This is the shape of a cylinder. It has two circular ends and a curved surface. A ghee tin and water tank are examples of a cylinder.

Can you give two examples of cylinders?

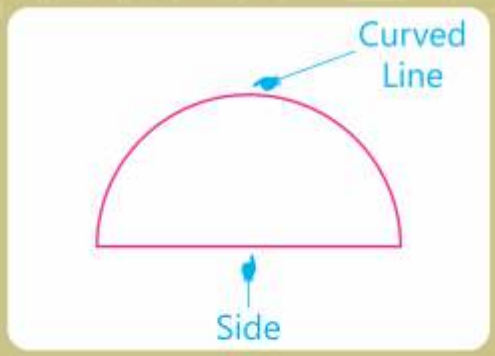


This is the picture of a pentagon. It has 5 sides and 5 vertices. A regular pentagon have equal des.



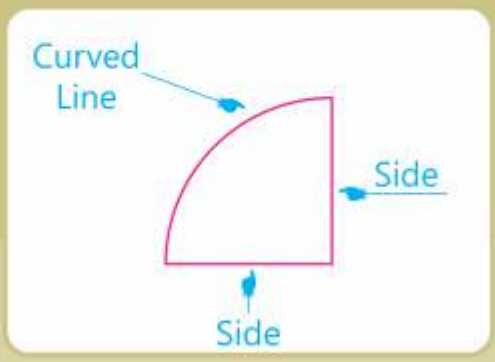
Semi Circle:

This is the shape of a semi circle. It is half of a circle. It has one straight side and a curved surface.



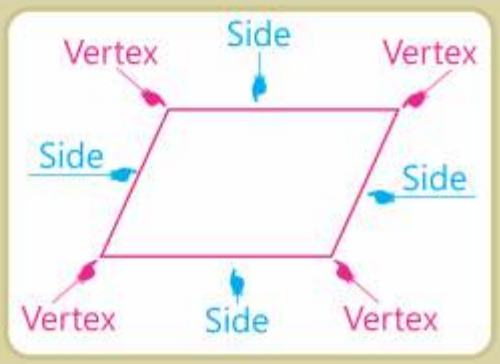
Quarter:

This is the picture of a quarter or quadrant. It has two equal and straight sides and a curved surface. It is one fourth part of a circle.



Parallelogram:

This is the picture of a parallelogram. It has 4 vertices and 4 sides. Opposite sides are parallel and equal. In a parallelogram no angle is of 90° (right angle).



Activity 1 Write the answers of the following.

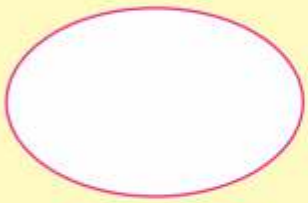
a. A cuboid has 6 sides.
b. A cuboid has 8 vertices.
c. Example of cuboid is CPU .
d. An oval has no vertices.
e. A cone has one vertices.
f. Example of cone is birthday cap .
g. A cylinder has two circular ends.
h. A cylinder has a curved surface.
i. A pentagon has 5 sides.
j. A semi circle is half of a circle.
k. A quadrant has two sides.

Exercise

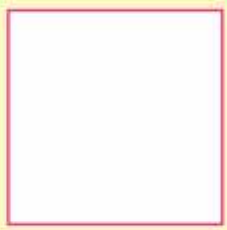
1. Write the names of given shapes:

Cone

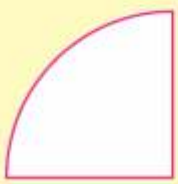
Rectangle



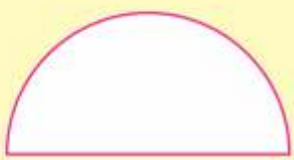
Oval



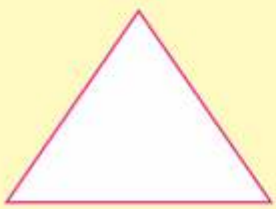
Square



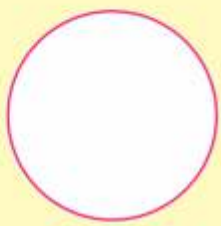
Quarter



Semi circle



Triangle



Circle

Sphere

Cube

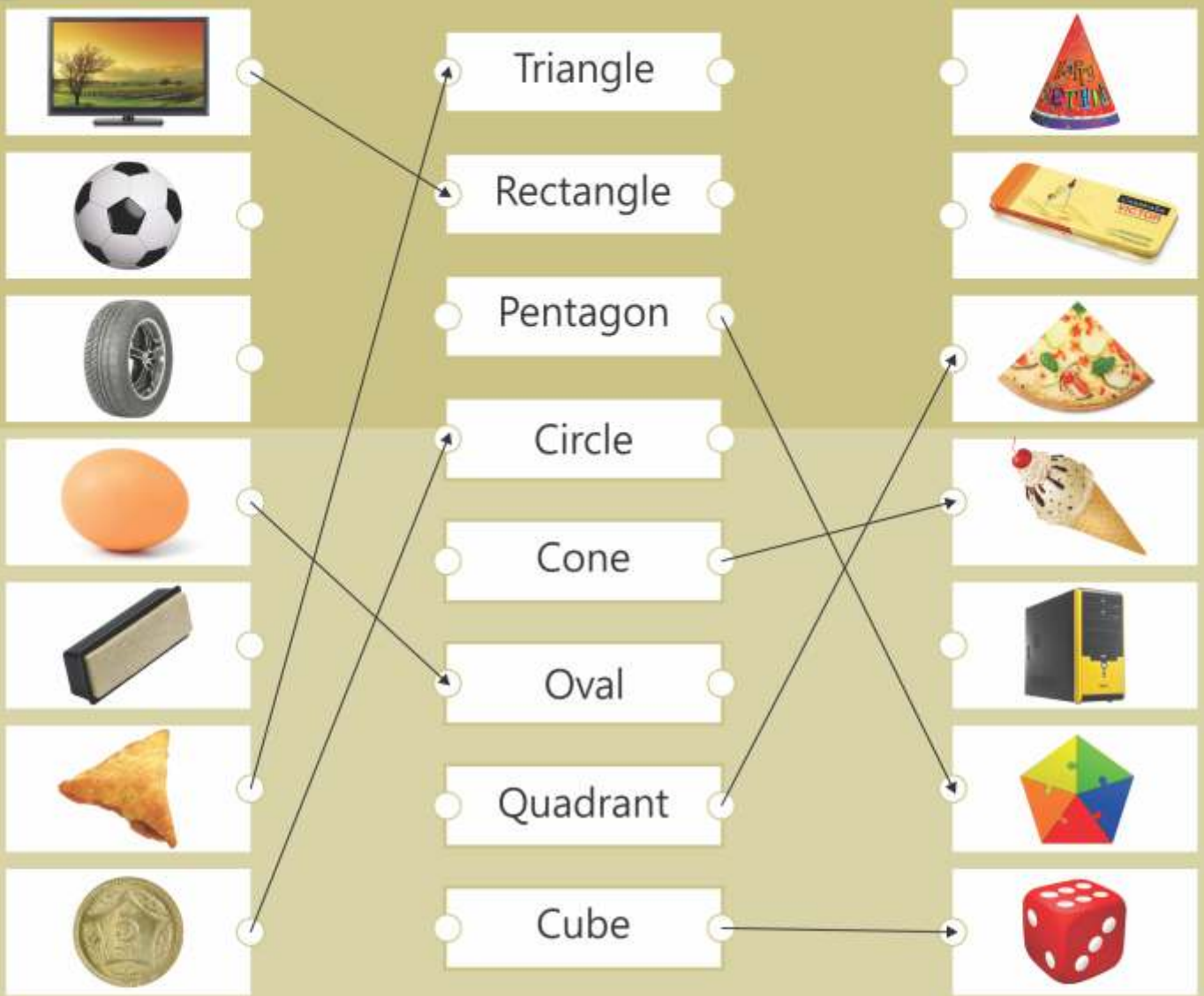
Cuboid

Cylinder

2. Write the number of vertices of these shapes.

a.	Rectangle	4 vertices
b.	Parallelogram	4 vertices
c.	Pentagon	5 vertices
d.	Cube	8 vertices
e.	Cuboid	8 vertices
f.	Circle	no vertices
g.	Triangle	3 vertices

3. Match given pictures with their names.



4. Write true or false.

a. A circle has one centre. ✓

b. A triangle has four sides. ✗

c. A rectangle has no equal side. ✗

d. A sphere is like a football. ✓

e. An oval has no exact centre. ✓

f. A square has four vertices. ✓

g. A cube has 6 sides. ✓

h. A cuboid has 8 vertices. ✓

i. A quadrant has two curved surfaces. ✗

j. A pentagon has 5 sides. ✓

Unit 8

Money

Student's Learning Outcomes:

After studying this unit, students will be able to:

- identify different coins and currency notes.
- convert bigger currency into smaller one.
- add and subtract currency.
- shop and find total bill and the remaining amount.

For selling and purchasing every country has its own currency or money system. In Pakistan notes and coins are used.

The currency notes used in Pakistan are Rs. 10, Rs. 20, Rs. 50, Rs. 100, Rs 500, Rs 1000 and Rs. 5000.

The coins used in Pakistan are Re. 1, Rs. 2 and Rs. 5.

Here are the pictures of these notes and coins.

Re: 1

Rs: 2

Rs: 5

Rs: 10

Rs: 20

Rs: 50

Rs: 100

Rs: 500

Rs: 1000

Rs: 5000

We can exchange higher value rupee notes with lower value rupee notes and coins. For example a Rs. 10 note is exchanged as:

Two 5 rupee coins

Five 2 rupee coins

Ten 1 rupee coins

Activity Look and fill in the blanks:

a. A 10 rupee note = 2 5 rupee coins.

b. A 10 rupee note = 5 2 rupee coins.

c. A 10 rupee note = 10 1 rupee coins.

A Rs. 20 note is exchanged as:

Two 10 rupee notes

Four 5 rupee coins

Ten 2 rupee coins

Twenty 1 rupee coins

Teacher's Note:

Guide the students how to convert bigger notes and coins into smaller and how to add or subtract them?

Activity Look and fill in the blanks.

a. A 20 rupee note = 2 10 rupee note.
b. A 20 rupee note = 4 5 rupee coins.
c. A 20 rupee note = 10 2 rupee coins.
d. A 20 rupee note = 20 1 rupee coins.
e. A 100 rupee note = 2 50 rupee notes.
f. A 100 rupee note = 10 10 rupee notes.
g. A 500 rupee note = 5 100 rupee notes.
h. A 500 rupee note = 11 50 rupee notes.

Addition of Rupees

Addition of rupee is same as the addition, we have learnt before.

(a)
Rs. 15
+Rs. 14
Rs. 29

(b)
Rs. 26
+Rs. 72
Rs. 98

(c)
Rs. 55
+Rs. 40
Rs. 95

(d)
Rs. 23
Rs. 42
+Rs. 10
Rs. 75

(e)
Rs. 13
Rs. 22
+Rs. 44
Rs. 79

(f)
Rs. 15
Rs. 35
+Rs. 45
Rs. 95

Activity Add the following.

(a)
Rs. 30
+Rs. 25
Rs. 55

(b)
Rs. 23
+Rs. 46
Rs. 69

(c)
Rs. 44
+Rs. 55
Rs. 99

(d)
Rs. 25
Rs. 14
+Rs. 50
Rs. 89

(e)
Rs. 10
Rs. 15
+Rs. 30
Rs. 55

(f)
Rs. 13
Rs. 40
+Rs. 46
Rs. 99

Subtraction of Rupees

Subtraction of rupees is same as the subtraction, we have already learnt .

(a) Rs. 36
−Rs. 14
Rs. 22

(b) Rs. 56
−Rs. 23
Rs. 33

(c) Rs. 88
−Rs. 40
Rs. 48

(d) Rs. 96
−Rs. 25
Rs. 71

(e) Rs. 87
−Rs. 36
Rs. 51

(f) Rs. 47
−Rs. 27
Rs. 20

Subtract the following.

(a) Rs. 82
−Rs. 70
Rs. 12

(b) Rs. 94
−Rs. 30
Rs. 64

(c) Rs. 89
−Rs. 39
Rs. 50

(d) Rs. 85
−Rs. 31
Rs. 54

(e) Rs. 66
−Rs. 32
Rs. 34

(f) Rs. 48
−Rs. 28
Rs. 20

(g) Rs. 79
−Rs. 54
Rs. 25

(h) Rs. 99
−Rs. 66
Rs. 33

(i) Rs. 52
−Rs. 31
Rs. 21

(j) Rs. 39
−Rs. 27
Rs. 12

(k) Rs. 57
−Rs. 34
Rs. 23

(l) Rs. 86
−Rs. 44
Rs. 42

(m) Rs. 93
−Rs. 52
Rs. 41

(n) Rs. 87
−Rs. 61
Rs. 26

(o) Rs. 95
−Rs. 45
Rs. 50

Shopping

Rs.25

Rs.30

Rs.20

Rs.15

Rs.50

Read the price from tags and add.

(a)

Rs.	30
+ Rs.	50
	80

(b)

Rs.	25
+ Rs.	15
	40

(c)

Rs.	20
+ Rs.	25
	45

(d)

Rs.	50
+ Rs.	20
	70

(e)

Rs.	15
+ Rs.	30
	45

(f)

Rs.	25
+ Rs.	30
	55

Word Problems

1. Asad has Rs. 189. He spends Rs. 69. How much money is left with him?

2. A ticket of park costs Rs.8. We have to buy three tickets. What is the total amount we have to pay?

3. Ali purchased a toy for Rs. 110 and another toy for Rs. 50. How much money did he spend?

4. Naheed bought a school bag for Rs. 560 and a story book for Rs. 60. How much money did she spend?

5. Aslam has ten coins of 2 rupee with him. What is the total amount left with him?

6. Ali saved Rs. 37. He got pocket money of Rs. 42. How much money had Ali altogether?

7. Fahad purchased some fruits for Rs. 325. He gave Rs. 500 to the shop keeper. How much rupees would he return?

8. I have Rs. 1000. I purchase some books for Rs. 345. How much money is left with me?

Solve Here

```
  189
- 69
  120

    8
x   3
   24

  110
+ 50
  160

  560
+ 60
  620

   10
x   2
   20

   42
+ 37
   79

  500
-325
  175

 1000
- 345
  655
```

9. Add the following.

(a)
Rs. 35
Rs. 210
+Rs. 123
Rs. 368

(b)
Rs. 140
Rs. 203
+Rs. 42
Rs. 385

(c)
Rs. 345
Rs. 123
+Rs. 111
Rs. 579

(d)
Rs. 246
Rs. 333
+Rs. 420
Rs. 999

(e)
Rs. 270
Rs. 232
+Rs. 146
Rs. 648

(f)
Rs. 369
Rs. 233
+Rs. 180
Rs. 782

(g)
Rs. 723
Rs. 112
+Rs. 140
Rs. 975

(h)
Rs. 481
Rs. 281
+Rs. 260
Rs. 1022

(i)
Rs. 444
Rs. 257
+Rs. 221
Rs. 922

10 Subtract the following.

(a)
Rs. 345
−Rs. 210
Rs. 135

(b)
Rs. 844
−Rs. 230
Rs. 614

(c)
Rs. 443
−Rs. 123
Rs. 320

(d)
Rs. 450
−Rs. 440
Rs. 10

(e)
Rs. 366
−Rs. 245
Rs. 121

(f)
Rs. 469
−Rs. 448
Rs. 21

(g)
Rs. 948
−Rs. 344
Rs. 604

(h)
Rs. 500
−Rs. 346
Rs. 154

(i)
Rs. 889
−Rs. 455
Rs. 434