DETAILED SOLUTIONS

CHAPTER 1 : LARGE NUMBERS

Let's Recall

1. (*a*) 4379 = Four thousand three hundred seventy-nine.
(*b*) 8900 = Eight thousand nine hundred.
(c) 7159 = Seven thousand one hundred fifty-nine.
(*d*) 9999 = Nine thousand nine hundred ninety-nine.

2. (*a*) Three thousand seven hundred twenty = 3720.
(*b*) Five thousand eight hundred sixty-two = 5862.
(*c*) Eight thousand eighty-eight = 8088.
(*d*) Five thousand nine = 5009.

3. (*a*) The place value of 3 in 7301 is 300.
(*b*) The place value of 0 in 3067 is 0.
(*c*) 1000 more than 5688 is 6688.
(*d*) 6674 = 6 thousands + 6 hundreds + 7 tens + 4 ones.
(*e*) 6236 is the predecessor of 6237.

Life Skills (Page 8)

Yes, you can find a 5-digit number (often followed by a decimal/tenth digit) on both older car odometers and many standard residential electric meters. **Like:** Older cars often have 5-digit mechanical odometers (e.g., 99,999 km), while Indian electricity meters often show current consumption in kWh using 5 or 6 digits, or display a 5-digit unique meter ID.

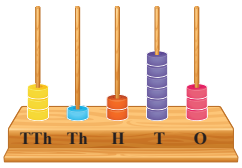
Practice Time 1A

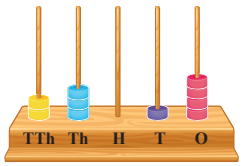
1.

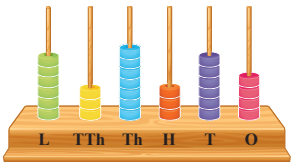
	Lakhs (L) (100000)	Ten Thousands (TTh) (10000)	Thousands (Th) (1000)	Hundreds (H) (100)	Tens (T) (10)	Ones (O) (1)
(*a*)		3	7	0	3	6
(*b*)		4	3	6	4	5
(*c*)	3	8	6	4	4	9
(*d*)	6	4	0	3	9	6

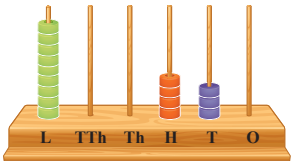
2. (*a*) Thirty-six thousand four hundred thirteen = 36413.
(*b*) Forty-three thousand ninety-eight = 43098.
(*c*) Four lakh ninety thousand two hundred twenty-three = 490223.
(*d*) Seven lakh four thousand eight-nine = 704089.

3. (*a*) 32,064 = Thirty-two thousand sixty-four.
(*b*) 36,379 = Thirty-six thousand three hundred seventy-nine.
(*c*) 94,008 = Ninety-four thousand eight.
(*d*) 27,114 = Twenty-seven thousand one hundred fourteen.
(*e*) 4,13,066 = Four lakh thirteen thousand sixty-six.
(*f*) 7,36,395 = Seven lakh thirty-six thousand three hundred ninety-five.
(*g*) 4,49,078 = Four lakh forty-nine thousand seventy-eight.
(*h*) 2,57,141 = Two lakh fifty-seven thousand one hundred forty-one.

4. (*a*) 

(*b*) 

(*c*) 

(*d*) 

5. (*a*) 52,483 = Fifty-two thousand four hundred eighty-three.
(*b*) 60,135 = Sixty thousand one hundred thirty-five.
(*c*) 5,42,638 = Five lakh forty-two thousand six hundred thirty-eight.

6. (*a*) Numbers between 56,201 and 56,219
= 56,202; 56,203; 56,204; 56,205; 56,206; 56,207; 56,208; 56,209; 56,210; 56,211; 56,212; 56,213; 56,214; 56,215; 56,216; 56,217; 56,218
(*b*) to (*d*) — Same as part (*a*).

7. (*b*) 6,3,905 and (*d*) 11,47,5 are incorrectly written.

Fast Check (Page 15)

1. 200000 + 50000 + 100 + 60 + 9 = 250169
2. 3 × 10000 + 7 × 1000 + 6 × 100 + 8 × 1 = 37608

Challenge Question (Page 16)

The Number is either 99,999 or 1,00,000
As predecessor 1,00,000 – 1 = 99,999 (This has 5 digits).
And, successor 1,00,000 + 1 = 100,001 (This has 6 digits). Similarly, 99,999 has predecessor = 99,998 and successor = 1,00,000

Think Tank (Page 16)

1. Greatest 5-digit number = 99999
   Successor = 99999 + 1 = 1,00,000
2. Greatest 6-digit number = 999999
   Predecessor = 999999 – 1 = 9,99,998
   Number of digits = 6

Practice Time 1B

1. (*a*) 46975 = 900 (*b*) 70347 = 70000
   (*c*) 27364 = 7000 (*d*) 373640 = 0
   (*e*) 436243 = 400000 (*f*) 508244 = 0
2. (*a*) We can express 47889 in the expanded form as
   47889 = 4 × 10000 + 7 × 1000 + 8 × 100 + 8 × 10 + 9 × 1
   = 40000 + 7000 + 800 + 80 + 9
   (*b*) We can express 80791 in the expanded form as
   80791 = 8 × 10000 + 0 × 1000 + 7 × 100 + 9 × 10 + 1 × 1
   = 80000 + 0 + 700 + 90 + 1
   = 80000 + 700 + 90 + 1
   (*c*) We can express 578914 in the expanded form as
   578914 = 5 × 100000 + 7 × 10000 + 8 × 1000 + 9 × 100 + 1 × 10 + 4 × 1
   = 500000 + 70000 + 8000 + 900 + 10 + 4
   (*d*) We can express 800450 in the expanded form as
   800450 = 8 × 100000 + 0 × 10000 + 0 × 1000 + 4 × 100 + 5 × 10 + 0 × 1
   = 800000 + 0 + 0 + 400 + 50 + 0
   = 800000 + 400 + 50
3. (*a*) 300000 + 8000 + 900 + 60 = 308960
   (*b*) 1L + 4TTh + 3Th + 6H + 2T + 9O
   = 1 × 100000 + 4 × 10000 + 3 × 1000 + 6 × 100 + 2 × 10 + 9 × 1
   = 100000 + 40000 + 3000 + 600 + 20 + 9
   = 143629
   (*c*) 8 × 100000 + 7 × 10000 + 5 × 1000 + 4 × 100 + 2 × 1
   = 800000 + 70000 + 5000 + 400 + 2
   = 875402
4. (*a*) Predecessor of 34364 = 34364 – 1 = 34363
   Successor of 34364 = 34364 + 1 = 34365
   (*b*) Predecessor of 73648 = 73648 – 1 = 73647
   Successor of 73648 = 73648 + 1 = 73649
   (*c*) Predecessor of 11143 = 11143 – 1 = 11142
   Successor of 11143 = 11143 + 1 = 11144
   (*d*) Predecessor of 840068 = 840068 – 1 = 840067
   Successor of 840068 = 840068 + 1 = 840069
   (*e*) Predecessor of 154836 = 154836 – 1 = 154835
   Successor of 154836 = 154836 + 1 = 154837
   (*f*) Predecessor of 199999 = 199999 – 1 = 199998
   Successor of 199999 = 199999 + 1 = 200000
5. (*a*) Sum of the place values of two 6s in 460246 = 60000 + 6 = 60006
   (*b*) Place value of 4 in 740128 = 40000
   Face value of 4 in 740128 = 4
   Difference = 40000 – 4 = 39996

Challenge Question (Page 18)

The statement is false.
As, for example let A = 12345 and B = 12319
Here, the last digit of A is 5 and last digit of B is 9.
But A > B.

Practice Time 1C

1. (*a*) 58,696 $\boxed{<}$ 9,98,769 (*b*) 63,201 $\boxed{<}$ 63,990
   (*c*) 4,69,422 $\boxed{>}$ 4,66,422
   (*d*) 9,99,989 $\boxed{<}$ 9,99,999
2. (*a*) Greatest number = 87,856
   Smallest number = 38,857
   (*b*) Greatest number = 4,88,332
   Smallest number = 45,657
   (*c*) Greatest number = 6,45,562
   Smallest number = 6,45,172
   (*d*) Greatest number = 5,78,960
   Smallest number = 5,68,960

3. (*a*) First, we arrange the given numbers in the place value chart and then start comparing.

TTh	Th	H	T	O	
2	7	8	9	5	→ *ii*
2	7	6	5	6	→ *i*
8	8	9	7	5	→ *iv*
7	5	6	9	0	→ *iii*

27,656 is the smallest number and 88,975 is the greatest number.

Also, 27,895 is smaller than 75,690

So, 27,656 < 27,895 < 75,690 < 88,975.

(*b*) First, we arrange the given numbers in the place value chart and then start comparing.

39,850 is the smallest number and 49,560 is the greatest number.

Also, 39,856 is smaller than 39,876

So, 39,850 < 39,856 < 39,876 < 49,560.

TTh	Th	H	T	O	
3	9	8	5	0	→ *i*
Same 3	9	8	5	6	→ *ii*
3	9	8	7	6	→ *iii*
4	9	5	6	0	→ *iv*
	Same				

(*c*) Same as part (*b*)

(*d*) Same as part (*b*)

4. (*a*) First, we arrange the given numbers in the place value chart and then start comparing.

TTh	Th	H	T	O
4	2	5	6	0
4	2	1	0	3
4	2	1	0	5
4	2	2	0	6
	Same	Same		

42,560 is the greatest number and 42,103 is the smallest number.

Also, 42,206 is greater than 42,105

So, 42,560 > 42,206 > 42,105 > 42,103.

(*b*) Same as part (*a*)

(*c*) Same as part (*a*)

(*d*) Same as part (*a*)

Maths Connect (Page 19)

Mercury < Earth < Uranus < Saturn < Jupiter

Think Tank (Page 20)

1. Greatest number: 96321
Smallest number: 12369

2. Greatest number: 85430
Smallest number: 30458

Challenge Question (Page 20)

To form two distinct 5-digit numbers using the digits 1, 4, 5, 8, and 9 (with repetition) so that the sum is exactly 1,00,000, we need to look at the addition column by column from right to left, ensuring each column results in a "0" and carries over the correct value.

So, in ones column possible combination are (1, 9), (9, 1) or (5, 5) so the ones digit of sum is 0 and the carry over is 1.

So, the possible combination of tens to ten-thousand column is (1, 8), (8, 1), (4, 5) or (5, 4)

So, one of the possible pair is 14581 + 85419 = 100000. (Answer may vary).

Practice Time 1D

1.

	Digits	Greatest number	Smallest number
(*a*)	2, 7, 3, 5, 1	75321	12357
(*b*)	7, 5, 4, 8, 0	87540	40578
(*c*)	9, 8, 3, 0, 2, 6	986320	203689
(*d*)	0, 1, 9, 6, 3, 7	976310	103679

2.

	Digits	Greatest 5-digit number	Smallest 5-digit number
(*a*)	5, 8, 3, 4	88543	33458
(*b*)	6, 0, 7	77760	60007
(*c*)	2, 7, 8	88872	22278
(*d*)	9, 6, 0	99960	60009
(*e*)	5, 0	55550	50000

3.

	Digits	Greatest 6-digit number	Smallest 6-digit number
(*a*)	1,9,7,5,0	997510	100579
(*b*)	2,4,6,8	888642	222468
(*c*)	3,7,0,9	999730	300079
(*d*)	6,8,9	999986	666689
(*e*)	4,7	777774	444447

Fast Check (Page 23)

1. The height of Mount Everest is 8,848 m → 8,800 m

2. The length of the river Ganges is 2,525 km → 2,500 km

3. The diameter of the Earth is 12,742 km → 12,700 km

4. Light travels 2,99,792 km in one second → 2,99,800 km

Challenge Question (Page 23)

For a number to round to 3,82,000 when rounded to the nearest thousands, we look at the hundreds digit. It must fall within the range: 3,81,500 to 3,82,499.

For the same number if round to 3,81,900 when rounded to the nearest hundreds, it must fall within the range: 3,81,850 to 3,81,949.

So, the number can be 3,81,850 (Answer may vary).

Practice Time 1E

1. (*a*) 843 = 840 (*b*) 785 = 790
(*c*) 997 = 1000 (*d*) 3265 = 3270
(*e*) 7545 = 7550 (*f*) 9048 = 9050
(*g*) 10,200 = 10,200 (*h*) 14,563 = 14,560

2. (*a*) 2,832 = 2,800 (*b*) 4,567 = 4,600
(*c*) 5,055 = 5,100 (*d*) 9,398 = 9,400
(*e*) 7,500 = 7,500 (*f*) 14,657 = 14,700
(*g*) 32,195 = 32,200 (*h*) 43,629 = 43,600

3. (*a*) 23,471 = 23,000 (*b*) 43,805 = 44,000
(*c*) 60,030 = 60,000 (*d*) 1,24,350 = 1,24,000
(*e*) 3,45,552 = 3,46,000 (*f*) 9,85,832 = 9,86,000
(*g*) 7,54,325 = 7,54,000 (*h*) 8,32,981 = 8,33,000

Challenge Question (Page 25)

Since XV = 10 + 5 = 15
And LX = 50 + 10 = 60,
X ? V + 15 = 60
So, X ? V = 60 – 15 = 45 = XLV
So, ? = L and XLV + XV = LX

Practice Time 1F

1. (*a*) 8 = 5 + 1 + 1 + 1 = VIII
(*b*) 18 = 10 + 5 + 1 + 1 + 1 = XVIII
(*c*) 25 = 10 + 10 + 5 = XXV
(*d*) 29 = 10 + 10 + 9 = XXIX
(*e*) 95 = 90 + 5 = XCV
(*f*) 100 = C
(*g*) 149 = 100 + 40 + 9 = CXLIX
(*h*) 259 = 100 + 100 + 50 + 9 = CCLIX
(*i*) 364 = 100 + 100 + 100 + 50 + 10 + 4 = CCCLXIV
(*j*) 369 = 100 + 100 + 100 + 50 + 10 + 9 = CCCLXIX

2. (*a*) XXIX = 10 + 10 + (10 – 1) = 29
(*b*) XLII = (50 – 10) + 1 + 1 = 40 + 2 = 42
(*c*) XLIX = (50 – 10) + (10 – 1) = 40 + 9 = 49
(*d*) XCVIII = (100 – 10) + 5 + 3 = 90 + 8 = 98
(*e*) LXXXIV = 50 + 10 + 10 + 10 + 4 = 84
(*f*) CLVII = 100 + 50 + 5 + 2 = 157
(*g*) CCLI = 100 + 100 + 50 + 1 = 251
(*h*) CCCV = 100 + 100 + 100 + 5 = 305
(*i*) CCCXXXV = 100 + 100 + 100 + 10 + 10 + 10 + 5 = 335
(*j*) CCCLVIII = 100 + 100 + 100 + 50 + 5 + 3 = 358

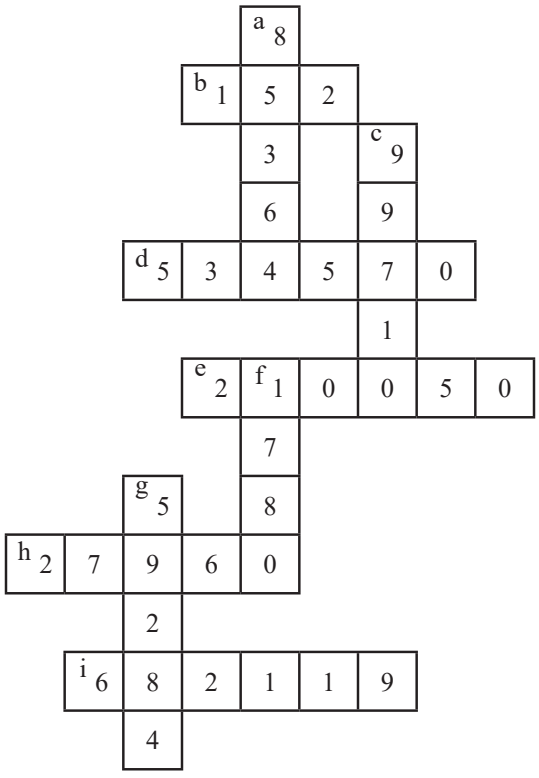
3. (*a*) X + IX = 10 + 9 = 19
(*b*) XXI – XVIII = 21 – 18 = 3
(*c*) XXXIII – XIV = 33 – 14 = 19
(*d*) XXVII + IX = 27 + 9 = 36

4. (*a*) 11 + 11 = XI + XI = XXII
(*b*) 50 – 1 = 49 = XLIX
(*c*) 100 + 50 = C + L = CL
(*d*) 100 + 100 = C + C = CC

Mental Maths (Page 26)

1. 70 tens = 70 × 10 = 700
2. Biggest number = 872500
3. CXXIV = 100 + 10 + 10 + 4 = 124

Maths Fun (Page 26)



Challenge Question (Page 27)

1. The greatest 5-digit number with 0 at ones place and without repeating the digits = 98760.
2. The smallest 6-digit number with 0 at ones place and without repeating the digits = 123450.
3. The greatest 6-digit number with 0 at hundreds place and without repeating the digits = 987065.

Chapter Assessment

1. (*a*) (*iii*) 6,55,233.
   (*b*) (*i*) 395620 = 300000 + 90000 + 5000 + 600 + 20
   (*c*) (*ii*) Lakhs
   (*d*) (*iv*) 100 tens
2. Given number is 85704
   (*a*) The face value and place value of digit 5 are 5 and 5000 respectively.
   (*b*) 8 is at the ten thousands place.
   (*c*) Place value of the digit 0 in the number is 0.
   (*d*) Place value of the digit 7 is seven hundred.
   (*e*) 4 is the only non-zero digit whose place value is the same as its face value.
3. (*a*) – (*iv*) (∵ LIX + CLIX = 59 + 159 = 218 and CCXVIII = 100 + 100 + 10 + 8 = 218)
   (*b*) – (*i*) (∵ 300 + 109 = 409 and CDIX = (500 – 100) + 9 = 400 + 9 = 409)
   (*c*) – (*ii*) (∵ CCC + XLIX = 100 + 100 + 100 + (50 – 10) + 9 = 349)
   (*d*) – (*iii*) (∵ CXCIV + LXVIII = 100 + (100 – 10) + 4 + 50 + 10 + 8 = 262)
4. (*a*) Fifty-four thousand = 54,000 = 3 zeros.
   (*b*) Three lakh = 3,00,000 = 5 zeros.
   (*c*) Eighty thousand = 80,000 = 4 zeros.
5. (*a*) 56,305; 56,306; 56,307; 56,308; 56,309
   (*b*) 2,10,500; 2,10;400; 2,10,300; 2,10,200; 2,10,100
   (*c*) 3,82,354; 4,82,354; 5,82,354; 6,82,354; 7,82,354
6. (*a*) 105488, 105588, 105688, 105788, 105888, 105988
   (*b*) 691345, 692345, 693345, 694345, 695345, 696345
7. ₹3,25,501 = Three lakh twenty-five thousand five hundred one.
   Yes. For helping needy people donation is a good thing.
8. Since 10,825 < 10,789, Mrs Gupta sold fewer sarees this year.
9. Money in savings account of Narayan's father = ₹4,53,900
   Money in savings account of Raman's father = ₹4,51,989
   Since ₹4,53,900 > ₹4,51,989
   Thus, Narayan's father has more money in his savings account.
10. Total number of 5-digit numbers = Greatest number – Smallest number + 1
    = 99999 – 10000 + 1 = 89999 + 1 = 90,000.
11. 10001, 100001 (answer may vary)
12. (*a*) False I can be subtracted from V and X
    (*b*) False V, L and D are never repeated.
    (*c*) False X, C and I can be repeated up to 3 times.
    (*d*) True X can be subtracted from L and C only.

Maths Connect (Page 29)

1. Highest mountain is Kangchenjunga = 28,169 ft.
2. Heights in ascending order (ft.) = 22940 < 23760 < 24370 < 25446 < 25643 < 28169.
3. 22940 = Twenty-two thousand nine hundred forty ft.
   23760 = Twenty-three thousand seven hundred sixty ft.
   24370 = Twenty-four thousand three hundred seventy ft.
   25446 = Twenty-five thousand four hundred forty-six ft.
   25643 = Twenty-five thousand six hundred forty-three ft.
   28169 = Twenty-eight thousand one hundred sixty-nine ft.
4. 22940 = 22900; 25643 = 25600; 28169 = 28200; 24370 = 24400; 23760 = 23800; 25446 = 25400

CHAPTER 2 : ADDITION AND SUBTRACTION

Let's Recall

1. (*a*)

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

(*b*)

	5	8	5	9
–	3	1	4	5
	2	7	1	4

2. 1150 + 676 + 1850 – 20

We first find the sum of 1150, 676 and 1850 and then find the difference between the sum obtained and 20 as shown below.

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

	Th	H	T	O
	3	6	7	6
–			2	0
	3	6	5	6

Thus, 1150 + 676 + 1850 – 20 = 3656.

3.

	H	T	O
		(1)	
Population of village A =	5	7	6
Population of village B = +	4	1	8
Total population of two villages =	9	9	4

And,

	H	T	O
		(6)	(16)
Population of village A =	5	~~7~~	~~6~~
Population of village B = –	4	1	8
Difference in their population =	1	5	8

Thus, total population of two villages is 994 and difference of their population is 158.

4. Sohail read 5761 words and Samina read 5795.

Since 5795 > 5761,

Samina read 34 words more.

	5	7	9	5
–	5	7	6	1
	0	0	3	4

Think Tank (Page 35)

1. 4 thousands + 3 hundreds + 12 tens + 2 ones
= 4000 + 300 + 120 + 2 = 4422.

2. 6 ten thousands + 2 thousands + 55 hundreds
= 6 × 10000 + 2 × 1000 + 55 × 100
= 60000 + 2000 + 5500 = 67500

3. 8 thousands + 13 hundreds + 11 ones
= 8000 + 1300 + 11 = 9311

Practice Time 2A

1. (*a*)

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

(*b*)

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

(*c*)

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

(*d*)

	L	TTh	Th	H	T	O
			(1)		(1)	
	7	1	2	6	2	5
+	2	2	1	5	3	6
	9	3	4	1	6	1

(*e*)

	L	TTh	Th	H	T	O
	(1)	(1)				
	7	5	6	2	0	0
		6	4	1	4	0
+	1	2	2	5	2	6
	9	4	2	8	6	6

(*f*)

	L	TTh	Th	H	T	O
	(1)	(1)		(1)		
	2	5	6	4	2	1
	1	0	9	2	8	2
+	1	6	2	1	2	1
	5	2	7	8	2	4

2. (*a*) Arrange the digits of given numbers in the place value columns and add the numbers starting from the ones place.

Step 1. Add the ones.

2 ones + 1 one + 0 ones = 3 ones

Write 3 in the ones column.

Step 2. Add the tens.
1 ten + 1 ten + 2 tens = 4 tens
Write 4 in the tens column.
Step 3. Add the hundreds.
3 hundreds + 1 hundred + 3 hundreds
= 7 hundreds
Write 7 in the hundreds column.
Step 4. Add the thousands.
2 thousands + 1 thousand + 2 thousands
= 5 thousands
Write 5 in the thousands column.
Step 5. Add the ten thousands.
4 ten thousands + 1 ten thousand + 0 ten thousands = 5 ten thousands
Write 5 in the ten thousands column.
Step 6. Add the lakhs.
1 lakh + 1 lakh + 2 lakhs = 4 lakhs
Thus, 142312 + 111111 + 202320 = 455743

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

(*b*)

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

(*c*)

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

(*d*)

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

(*e*)

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

(*f*)

	L	TTh	Th	H	T	O
	①					
	1	1	5	2	0	6
	2	5	2	6	2	1
+	5	6	2	1	3	1
	9	2	9	9	5	8

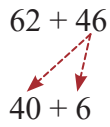
Think Tank (Page 37)

4256 + 10744 + 1354 = 16354
Checking: (Using grouping property of addition)
(4256 + 10744) + 1354 = 15000 + 1354 = 16354
4256 + (10744 + 1354) = 4256 + 12098 = 16354

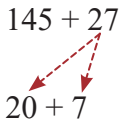
Practice Time 2B

1. (*a*) 1 + 499 = 500 (*b*) 999 + 1 = 1000
(*c*) 2436 + 0 = 2436 (*d*) 0 + 5364 = 5364
(*e*) 1796 + 0 = 1796 (*f*) 9999 + 1 = 10000
(*g*) 345 + 246 = 246 + 345
(*h*) 2736 + 4021 = 4021 + 2736

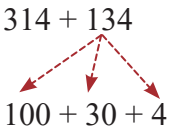
2. (*a*) 62 + 46
By splitting the smaller number
Step 1. 62 + 40 = 102
Step 2. 102 + 6 = 108
Thus, 62 + 46 = 108.



(*b*) 145 + 27
By splitting the smaller number
Step 1. 145 + 20 = 165
Step 2. 165 + 7 = 172
Thus, 145 + 27 = 172.

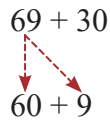


(*c*) 314 + 134
By splitting the smaller number
Step 1. 314 + 100 = 414
Step 2. 414 + 30 = 444
Step 3. 444 + 4 = 448
Thus, 314 + 134 = 448.

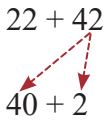


(*d*) 20 + 58 = 78 [Same as part (*b*)]
(*e*) 204 + 536 = 740 [Same as part (*b*)]
(*f*) 88 + 111 = 199 [Same as part (*b*)]
(*g*) 534 + 201 = 735 [Same as part (*b*)]
(*h*) 104 + 305 = 409 [Same as part (*b*)]

3. (*a*) 69 + 30
By splitting the bigger number
Step 1. 60 + 30 = 90
Step 2. 90 + 9 = 99
Thus, 69 + 30 = 99.



(*b*) 22 + 42



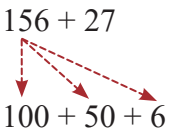
By splitting the bigger number

Step 1. 22 + 40 = 62

Step 2. 62 + 2 = 64

Thus, 22 + 42 = 64.

(*c*) 156 + 27



By splitting the bigger number

Step 1. 100 + 27 = 127

Step 2. 127 + 50 = 177

Step 3. 177 + 6 = 183

Thus, 156 + 27 = 183.

(*d*) 148 + 214 = 362 [Same as part (*c*)]

(*e*) 395 + 168 = 563 [Same as part (*c*)]

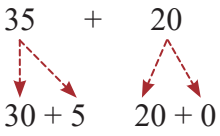
(*f*) 19 + 444 = 463 [Same as part (*c*)]

(*g*) 368 + 264 = 632 [Same as part (*c*)]

(*h*) 274 + 304 = 578 [Same as part (*c*)]

4. (*a*) 35 + 20

By splitting both the numbers



Step 1. 30 + 20 = 50

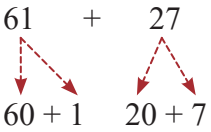
Step 2. 5 + 0 = 5

Step 3. 50 + 5 = 55

Thus, 35 + 20 = 55.

(*b*) 61 + 27

By splitting both the numbers



Step 1. 60 + 20 = 80

Step 2. 1 + 7 = 8

Step 3. 80 + 8 = 88

Thus, 61 + 27 = 88.

(*c*) 154 + 132

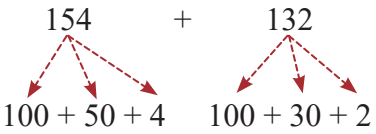
By splitting both the numbers

Step 1. 100 + 100 = 200

Step 2. 50 + 30 = 80

Step 3. 4 + 2 = 6

Step 4. 200 + 80 + 6 = 286



Thus, 154 + 132 = 286.

(*d*) 119 + 244 = 363 [Same as part (*c*)]

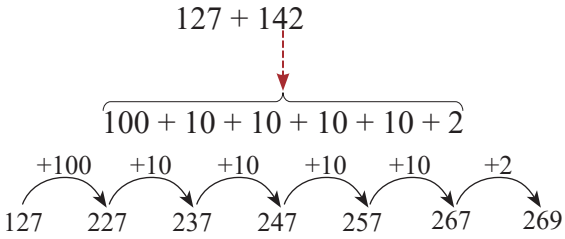
(*e*) 272 + 116 = 388 [Same as part (*c*)]

(*f*) 58 + 248 = 306 [Same as part (*c*)]

(*g*) 455 + 105 = 560 [Same as part (*c*)]

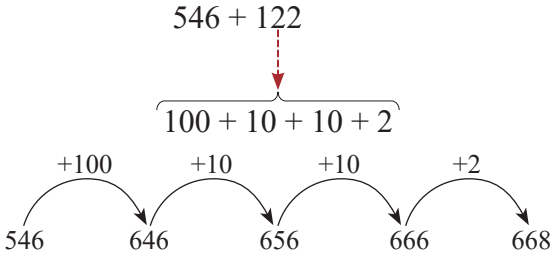
(*h*) 340 + 89= 429 [Same as part (*c*)]

5. (*a*) Counting in hundreds, tens and ones



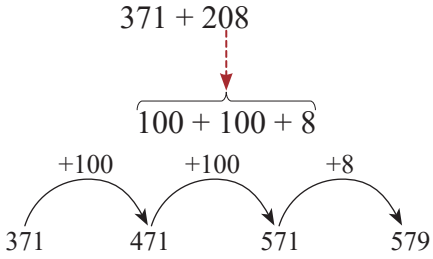
Thus, 127 + 142 = 269

(*b*) Counting in hundreds, tens and ones



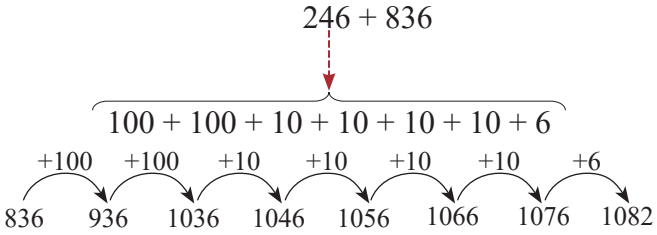
Thus, 546 + 122 = 668

(*c*) Counting in hundreds, tens and ones



Thus, 371 + 208 = 579

(*d*) Counting in hundreds, tens and ones



Thus, 246 + 836 = 1082

Practice Time 2C

1.

		TTh	Th	H	T	O
		(1)	(1)			
Withdrawn on Monday =	₹	2	6	8	0	0
Withdrawn on Tuesday = +	₹	3	7	4	0	0
Total amount withdrawn =	₹	6	4	2	0	0

Thus, Mr. Sohan withdrew ₹64200 from the bank in all.

2. (*a*)

		TTh	Th	H	T	O
			(1)	(1)		
Cost of computer =	₹	4	5	8	5	0
Cost of scanner = +	₹	1	3	7	5	0
Total cost of both items =	₹	5	9	6	0	0

Thus, cost of computer and scanner is ₹59600.

(*b*)

		TTh	Th	H	T	O
		(1)	(1)	(1)		
Cost of computer =	₹	4	5	8	5	0
Cost of printer = +	₹	1	8	9	9	0
Total cost of both items =	₹	6	4	8	4	0

Thus, cost of computer and printer is ₹64840.

(*c*)

		TTh	Th	H	T	O
		(1)	(1)	(1)		
Cost of scanner =	₹	1	3	7	5	0
Cost of printer = +	₹	1	8	9	9	0
Total cost of both items =	₹	3	2	7	4	0

Thus, cost of scanner and printer is ₹32740.

(*d*)

		TTh	Th	H	T	O
		(1)	(2)	(1)		
Cost of printer =	₹	1	8	9	9	0
Cost of computer =	₹	4	5	8	5	0
Cost of scanner = +	₹	1	3	7	5	0
Total cost of three items =	₹	7	8	5	9	0

Thus, total cost of all items is 78,590.

3.

	L	TTh	Th	H	T	O
	(1)	(2)	(1)			
The population of city A =		2	5	3	0	1
The population of city B =		3	5	7	0	1
The population of city C = +		4	9	0	3	2
Total population of three cities =	1	1	0	0	3	4

Thus, total population of three cities = 110034.

4.

	L	TTh	Th	H	T	O
	(1)	(1)	(2)	(2)	(1)	
Number of visitors came in January =		5	4	9	8	7
Number of visitors came in February =		3	4	5	6	7
Number of visitors came in March = +		2	5	7	9	3
	1	1	5	3	4	7

Thus, number of visitors visited the zoo in three month is 115347.

5.

	L	TTh	Th	H	T	O
		(2)	(1)	(2)	(1)	
Number of toys produced in 2023 =	1	0	9	0	7	7
Number of toys produced in 2024 =	1	2	8	8	5	9
Number of toys produced in 2025 = +	1	3	8	7	9	3
	3	7	6	7	2	9

Thus, the production of toys in these three years = 376729

6.

	L	TTh	Th	H	T	O
	(2)	(2)	(2)	(1)	(1)	
Number of votes received by 1st candidate =		7	6	9	5	3
Number of votes received by 2nd candidate =		7	5	2	4	3
Number of votes received by 3rd candidate = +		9	8	9	3	4
	2	5	1	1	3	0

Thus, 251130 votes were polled.

Challenge Question (Page 43)

Here, in the given subtraction the mistake is that the smaller number is subtracted from the larger number in each column instead of regrouping (borrowing). As in

Ones column: 4 – 9 = 5, instead of borrowing 1 from tens to do 14 – 9 = 5.

Tens column: 8 – 3 = 5 instead of borrowing to do 12 – 8.

Hundreds column: 10 – 7 but forgot that the hundred was already "borrowed" from to help the tens place.

The correct answer should be 3,245.

	Th	H	T	O
			(12)	
	(5)	(9)	~~(2)~~	(14)
	~~6~~	~~0~~	~~3~~	~~4~~
–	2	7	8	9
	3	2	4	5

Practice Time 2D

1. (*a*)

	TTh	Th	H	T	O
	5	3	7	5	3
–	3	0	4	2	2
	2	3	3	3	1

(*b*)

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

(*c*)

	TTh	Th	H	T	O
	(7)	(12)		(2)	(14)
	~~8~~	~~2~~	6	~~3~~	~~4~~
–	4	5	6	2	7
	3	7	0	0	7

(*d*)

	TTh	Th	H	T	O
				(13)	
			(2)	~~3~~	(10)
	5	8	~~3~~	~~4~~	~~0~~
–	2	3	0	6	8
	3	5	2	7	2

(*e*)

	TTh	Th	H	T	O
		(9)	(9)	(9)	
	(6)	~~(10)~~	~~(10)~~	~~(10)~~	(10)
	~~7~~	~~0~~	~~0~~	~~0~~	~~0~~
–	5	2	5	4	3
	1	7	4	5	7

(*f*)

	L	TTh	Th	H	T	O
		(9)	(9)	(9)	(9)	
	(3)	~~(10)~~	~~(10)~~	~~(10)~~	~~(10)~~	(10)
	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
–	1	3	6	1	3	3
	2	6	3	8	6	7

2. (*a*) 56433 < 68654

So, we write 56433 below 68654 in the place value columns.

Step 1. Subtract the ones.

4 ones – 3 ones = 1 one

Write 1 in the ones column.

Step 2. Subtract the tens.

5 tens – 3 tens = 2 tens

Write 2 in the tens column.

Step 3. Subtract the hundreds.

6 hundreds – 4 hundreds = 2 hundreds.

Write 2 in the hundreds column.

Step 4. Subtract the thousands.

8 thousands – 6 thousands = 2 thousands.

Write 2 in the thousands column.

Step 5. Subtract the ten thousands.

6 ten thousands – 5 ten thousands = 1 ten thousand.

Write 1 in the ten thousands column.

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

Thus, 68654 – 56433 = 12221.

(*b*) 523427 < 759638

So, we write 523427 below 759638 in the place value columns.

Step 1. Subtract the ones.

8 ones – 7 ones = 1 one

Write 1 in the ones column.

Step 2. Subtract the tens.

3 tens – 2 tens = 1 ten

Write 1 in the tens column.

Step 3. Subtract the hundreds.

6 hundreds – 4 hundreds = 2 hundreds.

Write 2 in the hundreds column.

Step 4. Subtract the thousands.

9 thousands – 3 thousands = 6 thousands.

Write 6 in the thousands column.

Step 5. Subtract the ten thousands.

5 ten thousands – 2 ten thousands = 3 ten thousands.

Write 3 in the ten thousands column.

Step 6. Subtract the lakhs.

7 lakhs – 5 lakhs = 2 lakhs.

Write 2 in the lakhs column.

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

Thus, 759638 – 523427 = 236211.

(*c*)

	L	TTh	Th	H	T	O
				(6)	(10)	
	8	6	5	~~7~~	~~0~~	9
–	2	2	4	3	1	0
	6	4	1	3	9	9

(*d*)

	L	TTh	Th	H	T	O
		(9)	(9)	(9)	(9)	
	(4)	~~(10)~~	~~(10)~~	~~(10)~~	~~(10)~~	(10)
	~~5~~	~~6~~	~~6~~	~~6~~	~~6~~	~~6~~
–	3	3	5	2	1	3
	1	6	4	7	8	7

3. (*a*)

	L	TTh	Th	H	T	O	
	8	8	4	9	3	2	← Minuend
–	4	4	3	5	2	1	← Subtrahend
	4	4	1	4	1	1	← Difference

2 ones – 1 one = 1 one

3 tens – 2 tens = 1 ten

9 hundreds – 5 hundreds = 4 hundreds

4 thousands – 3 thousands = 1 thousand

8 ten thousands – 4 ten thousands = 4 ten thousands

8 lakhs – 4 lakhs = 4 lakhs

Thus, 884932 – 443521 = 441411

		L	TTh	Th	H	T	O
Subtrahend →		4	4	3	5	2	1
Difference →	+	4	4	1	4	1	1
Minuend →		8	8	4	9	3	2

Check: The result or the difference when added to the subtrahend must give the minuend. Hence, the answer is correct.

(*b*)

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

(*c*)

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

(*d*)

	L	TTh	Th	H	T	O
		(9)	(9)	(9)	(9)	
	(8)	~~(10)~~	~~(10)~~	~~(10)~~	~~(10)~~	(10)
	~~9~~	~~6~~	~~6~~	~~6~~	~~6~~	~~6~~
–	8	4	3	2	5	4
	0	5	6	7	4	6

4. To get the required number, we subtract 37,214 from 97,364. Arrange the number in columns and Subtract as shown here.

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

Checking →

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

Thus, 60,150 must be added to 37,214 to get 97364.

5. To get the required number, we subtract 89,327 from 1,65,342 and check the answer.

	L	TTh	Th	H	T	O
		(15)				
		~~5~~	(15)		(3)	(12)
	~~1~~	~~6~~	~~5~~	3	~~4~~	~~2~~
–		8	9	3	2	7
	0	7	6	0	1	5

Checking →

	L	TTh	Th	H	T	O
		(15)				
		~~5~~	(15)		(3)	(12)
	~~1~~	~~6~~	~~5~~	3	~~4~~	~~2~~
–		7	6	0	1	5
	0	8	9	3	2	7

Thus, 76,015 must be subtracted from 1,65,342 to get 89,327.

6. To get the required number, we subtract 14,952 from 93,570.

	TTh	Th	H	T	O
		(12)			
	(8)	~~(2)~~	(15)	(6)	(10)
	~~9~~	~~3~~	~~5~~	~~7~~	~~6~~
–	1	4	9	5	2
	7	8	6	1	8

Practice Time 2E

1. (*a*) 43189 – 0 = 43189 (*b*) 77782 – 1 = 77781

(*c*) 54135 – 54135 = 0 (*d*) 64871 – 0 = 64871

(*e*) 578521 – 100 = 578421

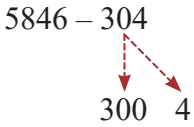
(*f*) 46340 – 0 = 46340 (*g*) 53956 – 0 = 53956

(*h*) 158950 – 158950 = 0

(*i*) 299100 – 299100 = 0

2. (*a*) 5846 – 304.

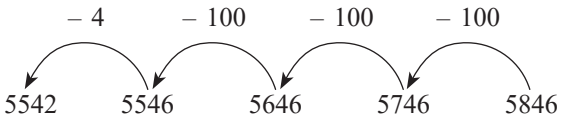
By splitting the smaller number using the place values.



Step 1. 5846 – 300 = 5546

Step 2. 5846 – 4 = 5542

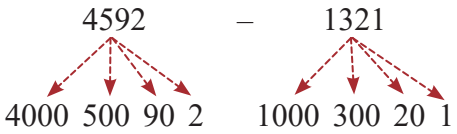
Also, we can have:



So, 5846 – 304 = 5542.

(*b*) 4592 – 1321.

By splitting both the number using place values.



Step 1. 4000 – 1000 = 3000

Step 2. 500 – 300 = 200

Step 3. 90 – 20 = 70

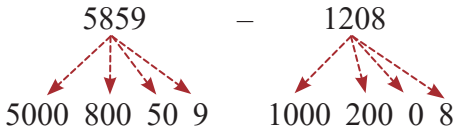
Step 4. 2 – 1 = 1

Step 5. 3000 + 200 + 70 + 1 = 3271

So, 4592 – 1321 = 3271.

(*c*) 5859 – 1208.

By splitting both the number using place values.



Step 1. 5000 – 1000 = 4000

Step 2. 800 – 200 = 600

Step 3. 50 – 0 = 50

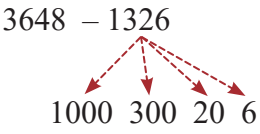
Step 4. 9 – 8 = 1

Step 5. 4000 + 600 + 50 + 1 = 4651

So, 5859 – 1208 = 4651.

(*d*) 3648 – 1326

By splitting the smaller number using the place values.



Step 1. 3648 – 1000 = 2648

Step 2. 2648 – 300 = 2348

Step 3. 2348 – 20 = 2328

Step 4. 2328 – 6 = 2322

So, 3648 – 1326 = 2322.

Practice Time 2F

1.

	TTh	Th	H	T	O
		(14)	(15)		
	(1)	~~(4)~~	~~(5)~~	(11)	
Number of bags of rice in the godown =	~~2~~	~~5~~	~~6~~	~~1~~	5
Number of bags sold = –		7	6	4	5
Number of bags left in the godown =	1	7	9	7	0

Thus, 17970 bags are left in the godown.

2.

	TTh	Th	H	T	O
		(9)	(12)		
	(1)	~~(10)~~	~~(2)~~	(10)	
Number of TV sets produced in 2025 =	~~2~~	~~0~~	~~3~~	~~0~~	8
Number of TV sets produced in 2024 = –	1	3	4	5	2
Increase in production of TV sets =	0	6	8	5	6

Thus, increase in the production of TV set = 6856.

3.

	TTh	Th	H	T	O
			(9)	(9)	
		(6)	~~(10)~~	~~(10)~~	(10)
Milk produced in a day =	8	~~7~~	~~0~~	~~0~~	~~0~~
Milk supplied to depot = –		2	5	0	2
Milk left with dairy =	8	4	4	9	8

Thus, 84498 litres milk was left with dairy.

4.

		TTh	Th	H	T	O
Cost of second hand car =	₹	9	5	7	0	0
Amount of money Rohan has = –	₹	6	3	3	0	0
More money required =	₹	3	2	4	0	0

Thus, Rohan needs ₹32400 more to purchase the car.

5.

	L	TTh	Th	H	T	O
			(13)	(14)	(13)	
		(2)	~~(3)~~	~~(4)~~	~~(3)~~	(10)
Seating capacity of the stadium =	1	~~3~~	~~4~~	~~5~~	~~4~~	~~0~~
Number of seats remained vacant = –		2	9	7	8	1
Number of people watched the event =	1	0	4	7	5	9

Thus, the number of people watched the event is 104759.

6.

		L	TTh	Th	H	T	O
						(14)	
		(2)	(17)		(7)	~~(4)~~	(10)
Total sale of two months in a jewellery shop =	₹	~~3~~	~~7~~	4	~~8~~	~~5~~	~~0~~
The sale of first month =	– ₹	1	9	2	3	5	8
The sale of second month =	₹	1	8	2	4	9	2

Thus, the sale for the second month is ₹182492.

Practice Time 2G

1. (*a*) 32,617 + 11,358 – 23,471

We first find the sum of 32,617 and 11, 358 and then find the difference between the sum obtained and 23,471 as shown below.

	TTh	Th	H	T	O
				(1)	
	3	2	6	1	7
+	1	1	3	5	8
	4	3	9	7	5

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

Thus, 32,617 + 11,358 – 23,471 = 20,504.

(*b*) 45,243 + 13,648 – 17,647

We first find the sum of 45,243 and 13,648 and then find the difference between the sum obtained and 17,647 as shown below.

	TTh	Th	H	T	O
				(1)	
	4	5	2	4	3
+	1	3	6	4	8
	5	8	8	9	1

	TTh	Th	H	T	O
				(8)	(11)
	5	8	8	~~9~~	~~1~~
–	1	7	6	4	7
	4	1	2	4	4

Thus, 45,243 + 13,648 – 17,647 = 41,244.

(*c*) and (*d*) — Same as above

(*e*) 2,71,409 – 4,67,521 – 1,10,216 + 3,89,899

Step 1. Add the numbers having + sign.

	L	TTh	Th	H	T	O
	(1)	(1)	(1)	(1)	(1)	
	2	7	1	4	0	9
+	3	8	9	8	9	9
	6	6	1	3	0	8

Step 2. Add the numbers having – sign.

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

Step 3. Subtract the sum obtained in step 2. from the sum obtained in step 1.

	L	TTh	Th	H	T	O
		(15)	(10)	(12)		
	(5)	~~(6)~~	~~(0)~~	~~(2)~~	(10)	
	~~6~~	~~6~~	~~7~~	~~3~~	~~0~~	8
–	5	7	7	7	3	7
	0	8	3	5	7	1

Thus, 2,71,409 – 4,67,521 – 1,10,216 + 3,89,899 = 83,571

2.

		TTh	Th	H	T	O
		(1)	(1)			
Number of people entered before noon =		1	5	9	4	2
Number of people entered after noon =	+	1	4	9	4	0
		3	0	8	8	2

		TTh	Th	H	T	O
				(14)		
			(4)	~~(4)~~	(10)	
Number of persons the auditorium can accommodate =		6	~~5~~	~~5~~	~~0~~	7
Number of people entered the auditorium =	–	3	0	8	8	2
		3	4	6	2	5

Thus, 34,625 more people can sit in the auditorium.

3.

		Th	H	T	O
			(1)	(1)	
Number of men visited the national museum =		4	2	7	5
Number of women visited the national museum =	+	3	5	4	9
		7	8	2	4

		TTh	Th	H	T	O
		(0)	(9)	(12)	(4)	(10)
Total number of people visited the national museum =		~~X~~	~~0~~	~~2~~	~~5~~	~~0~~
Number of men and women visited the national museum =	–		7	8	2	4
			2	4	2	6

Thus, 2426 children visited the national museum.

Challenge Question (Page 46)

Donation collected by the first society = ₹56,987

Donation collected by the second society

= ₹56987 + ₹3452 = ₹60,439

Donation collected by the third society

= ₹56987 – ₹6981 = ₹50,006

Total donation amount

= ₹56987 + ₹60439 + ₹50006

	①		①	①	②	
	₹	5	6	9	8	7
	₹	6	0	4	3	9
+	₹	5	0	0	0	6
	₹ 1	6	7	4	3	2

Thus, total amount collected by three societies is ₹1,67,432.

Challenge Question (Page 47)

Let X = 10101,

Then Y = 111111 – 10101 = 101010 (A 6-digit non-palindrome)

Further, let X = 20202,

Then Y = 111111 – 20202 = 90909 (A 5-digit palindrome).

Thus, the two 5-digit palindromes are X = 20202 and Y = 90909 such that X + Y = 111111.

(Answer may vary)

Practice Time 2H

1. (*a*) Rounding off 2,136 to the nearest 1000s = 2000 (Since hundreds digit, i.e. 1 < 5)

Rounding off 1,258 to the nearest 1000s = 1000 (Since hundreds digit, i.e. 2 < 5)

Estimated Sum

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

Actual Sum

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

Thus, 3,000 is the estimated sum and 3,394 is the actual sum.

(*b*) Rounding off 4,736 to the nearest 1000s = 5000 (Since hundreds digit, i.e., 7 > 5)

Rounding off 7,192 to the nearest 1000s = 7000 (Since hundreds digit, i.e., 1 < 5)

Estimated Sum

	TTh	Th	H	T	O
	①				
		5	0	0	0
+		7	0	0	0
	1	2	0	0	0

Actual Sum

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

Thus, 12,000 is the estimated sum and 11,928 is the actual sum.

(*c*) Same as part (*b*).

(*d*) Rounding off 12,733 to the nearest ten thousand → 10,000 (Since thousands digit, i.e., 2 < 5)

Rounding off 45,264 to the nearest ten thousand → 50,000 (Since thousands digit, i.e., 5 = 5)

Estimated Sum

	TTh	Th	H	T	O
	1	0	0	0	0
+	5	0	0	0	0
	6	0	0	0	0

Actual Sum

	TTh	Th	H	T	O
	1	2	7	3	3
+	4	5	2	6	4
	5	7	9	9	7

Thus, 60,000 is the estimated sum and 57,997 is the actual sum.

(*e*) Rounding off 74,732 to the nearest ten thousand → 70,000 (Since thousands digit, i.e., 4 < 5)

Rounding off 22,486 to the nearest ten thousand → 20,000 (Since thousands digit, i.e., 2 < 5)

Estimated Sum

	TTh	Th	H	T	O
	7	0	0	0	0
+	2	0	0	0	0
	9	0	0	0	0

Actual Sum

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

Thus, 90,000 is the estimated sum and 97,218 is the actual sum.

(*f*) to (*i*) — Same as part (*e*).

2. (*a*) Rounding off 3,136 to the nearest 1000s = 3000 (Since hundreds digit, i.e., 1 < 5)

Rounding off 1,285 to the nearest 1000s = 1000 (Since hundreds digit, i.e., 2 < 5)

Estimated Difference

	Th	H	T	O
	3	0	0	0
–	1	0	0	0
	2	0	0	0

Actual Difference

	Th	H	T	O
	②	⑩	⑬	
	~~3~~	~~X~~	~~3~~	6
–	1	2	8	5
	1	8	5	1

Thus, the estimated difference is 2000 and actual difference is 1851.

(*b*) Rounding off 4,736 to the nearest 1000s = 5000 (Since hundreds digit, i.e., 7 > 5)
Rounding off 3,192 to the nearest 1000s = 3000 (Since hundreds digit, i.e., 1 < 5)

Estimated Difference

	Th	H	T	O
	5	0	0	0
–	3	0	0	0
	2	0	0	0

Actual Difference

	Th	H	T	O
		(6)	(13)	
	4	~~7~~	~~3~~	6
–	3	1	9	2
	1	5	4	4

Thus, the estimated difference is 2000 and actual difference is 1544.

(*c*) Rounding off 27,783 to the nearest 10000s = 30,000 (Since thousands digit, i.e., 7 > 5)
Rounding off 4,572 to the nearest 1000s = 5,000 (Since hundreds digit, i.e., 5 = 5)

Estimated Difference

	TTh	Th	H	T	O
	(2)	(10)			
	~~3~~	~~0~~	0	0	0
–		5	0	0	0
	2	5	0	0	0

Actual Difference

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

Thus, the estimated difference is 25,000 and actual difference is 23,211.

(*d*) Rounding off 42,733 to the nearest 10000s = 40,000 (Since thousands digit, i.e., 2 < 5)
Rounding off 15,264 to the nearest 10000s = 20,000 (Since thousands digit, i.e., 5 = 5)

Estimated Difference

	TTh	Th	H	T	O
	4	0	0	0	0
–	2	0	0	0	0
	2	0	0	0	0

Actual Difference

	TTh	Th	H	T	O
				(12)	
	(3)	(12)	(6)	~~(2)~~	(13)
	~~4~~	~~2~~	~~7~~	~~3~~	~~3~~
–	1	5	2	6	4
	2	7	4	6	9

Thus, the estimated difference is 20,000 and actual difference is 27,469.

(*e*) to (*i*) — Same as above.

3.

Actual Sum

	L	TTh	Th	H	T	O
	(2)	(1)	(1)	(1)	(1)	
Number of men =		6	5	2	3	4
Number of women =		6	0	5	5	6
Number of Children = +		7	8	9	5	4
	2	0	4	7	4	4

Estimated Sum

	L	TTh	Th	H	T	O
Number of men =		7	0	0	0	0
Number of women =		6	0	0	0	0
Number of Children = +		8	0	0	0	0
	2	1	0	0	0	0

Difference between actual sum and estimated sum.

	L	TTh	Th	H	T	O
			(9)	(9)	(9)	
		(0)	(~~10~~)	(~~10~~)	(~~10~~)	(10)
	2	~~1~~	~~0~~	~~0~~	~~0~~	~~0~~
–	2	0	4	7	4	4
	0	0	5	2	5	6

Thus, the estimated sum is 2,10,000 and the difference between actual sum and estimated sum is 5256.

Chapter Assessment

1. (*a*) – (*ii*)

	L	TTh	Th	H	T	O
		(1)	(1)	(1)		
		7	7	6	2	4
+		3	3	3	9	1
	1	1	**1**	**0**	1	5

Hence, Option (*ii*) is correct

(*b*) – (*ii*) 6

	L	TTh	Th	H	T	O
		(1)				
		6	7	*	*	5
+		3	4	1	*	*
	1	0	1	*	*	*

∵ Sum of digits at thousands column
= 7 + 4 = 11Th = 1TTh + 1Th
∴ Sum of digits at ten thousands column = 6 + 3 + (1) = 10TTh = 1L + 0TTh
Thus, the number of digits in the sum = 6.

(*c*) – (*i*)

	TTh	Th	H	T	O
		(9)			
	(2)	(~~10~~)	(14)	(4)	(11)
Minuend =	~~3~~	~~0~~	~~4~~	~~5~~	~~1~~
Difference = –		4	9	3	7
Subtrahend =	2	5	5	1	4

Thus, subtrahend is 25514.

$(d) - (iv)$

	TTh	Th	H	T	O
	(4)	(10)			
	~~5~~	~~0~~	9	8	9
–		6	0	0	0
	4	4	9	8	9

$\because$ 45,463 > 44,989

Thus, 45,463 > 50,989 – 6000.

$(e) - (iv)$ $\because$ 46370 – 23817 = 22553 and 23817 – 1264 = 22553

$\therefore$ 22553 = 22553

Hence, option (iv) is correct.

2. (a)

	L	TTh	Th	H	T	O
	5	7	3	9	5	2
–	**2**	5	0	8	**6**	4
	3	2	**3**	0	8	**8**

(b)

	L	TTh	Th	H	T	O
	6	7	2	9	3	4
–	3	**8**	4	6	2	**8**
	2	8	**8**	3	**0**	6

(c)

	L	TTh	Th	H	T	O
	8	4	7	2	8	0
–	5	**3**	8	**0**	9	**2**
	3	0	**9**	1	**8**	8

3.

		L	TTh	Th	H	T	O
		(1)	(1)				
Raj's savings =	₹		5	5	0	0	0
Rahul's savings = +	₹		6	7	0	0	0
Rajeev's savings = +	₹		4	3	0	0	0
Total savings =	₹	1	6	5	0	0	0

		L	TTh	Th	H	T	O
Money required to begin the start-up =	₹	3	0	0	0	0	0
And the total savings = –	₹	1	6	5	0	0	0
	₹	1	3	5	0	0	0

Thus, ₹1,35,000 more is needed to begin their start-up.

4.

	TTh	Th	H	T	O
Workers in first shift =	1	0	7	5	0
Workers in second shift = +	1	2	6	5	0
Total worker of both shifts =	2	3	4	0	0

	TTh	Th	H	T	O
Total worker in the factory =	3	5	6	7	5
Total workers in first and second shift –	2	3	4	0	0
Workers in the third shift =	1	2	2	7	5

Thus, 12275 workers come in the third shift.

5.

	TTh	Th	H	T	O
Kits distributed by Ruhani =	4	5	6	8	0
Diff. between no. of kits distributed by two sisters = –	1	4	0	2	8
Kits distributed by her sister =	3	1	6	5	2

Thus, 31652 first aid kits were distributed by her sister.

6. Number of votes A secured = 60,008

Number of votes B secured = 50,352

Number of votes C secured = 78,980

Clearly, 78,980 > 60,008 < 50,352. Thus, candidate C is the winner. Now,

	TTh	Th	H	T	O
Number of votes C secured =	7	8	9	8	0
Number of votes A secured = –	6	0	0	0	8
Number of votes by which C won the election =	1	8	9	7	2

That is, C won the election by 18,972 votes.

7.

	Th	H	T	O	
	(1)				
Distance travelled in the first part =	2	4	5	0	km
Distance travelled in the second part = +	3	5	0	0	km
Distance travelled in the third part = +	2	7	0	0	km
	8	6	5	0	km

	TTh	Th	H	T	O	
Total distance between two major cities =	1	2	6	0	0	km
Distance travelled in first, second and third parts = –		8	6	5	0	km
Distance need to cover =		3	9	5	0	km

Thus, 3950 km has to be covered in the fourth part to complete the journey.

8.

	TTh	Th	H	T	O
				(12)	
	(6)	(15)	(7)	(2)	(10)
Mohan's monthly income = ₹	~~7~~	~~5~~	~~8~~	~~3~~	~~0~~
Radhika's monthly income = – ₹	5	9	0	8	9
Difference between their monthly income = ₹	1	6	7	4	1

Thus, difference between their monthly income is ₹16741.

9.

	TTh	Th	H	T	O
		(9)	(9)		
	(4)	(~~10~~)	(~~10~~)	(10)	
Funds needed by an NGO = ₹	~~5~~	~~0~~	~~0~~	~~0~~	0
Funds collected so far = – ₹	1	8	7	5	0
Short off money = ₹	3	1	2	5	0

Thus, the short off money for the NGO is ₹31,250.

Mental Maths (Page 51)

1. (*a*) 5000 + 8 + 18 = 5026

	Th	H	T	O
			(1)	
	5	0	0	0
				8
+			1	8
	5	0	2	6

(*b*) 6567 + 9845 + 372 = 16784

	TTh	Th	H	T	O
	(1)	(1)	(1)	(1)	
		6	5	6	7
		9	8	4	5
+			3	7	2
	1	6	7	8	4

(*c*) 8 ten thousands + 5 thousands + 15 hundreds + 12 tens.
= 8 × 10000 + 5 × 1000 + 15 × 100 + 12 × 10
= 80000 + 5000 + 1500 + 120 = 86620

(*d*) The difference between 8095 and 3002 is 5093

	Th	H	T	O
	8	0	9	5
–	3	0	0	2
	5	0	9	3

2. (*a*) ∵ 10000 + 45555 = 55555
Thus, the two numbers are 10000 and 45555.

(*b*) ∵ 800000 + 98989 = 898989
Thus, the two numbers are 800000 and 98989.

CHAPTER 3 : MULTIPLICATION

Let's Recall

1. (*a*) 24 × 15 = 360
(*b*) 3555 × 100 = 355500
(*c*) 20 × 10 × 5 = 20 × 10 × 5

2. (*a*)

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

(*b*)

	Th	H	T	O
		(1)	(2)	
		1	2	5
×			1	5
		6	2	5
+	1	2	5	0
	1	8	7	5

3. Cost of one toy = ₹125
Cost of 8 toys = ₹125 × 8
Thus, the cost of 8 toys is ₹1000.

Practice Time 3A

1. (*a*)

	TTh	Th	H	T	O
	(1)	(2)		(1)	
		3	7	2	4
×					3
	1	1	1	7	2

(*b*)

	TTh	Th	H	T	O
			(5)	(5)	(1)
		6	7	8	2
×					7
	4	7	4	7	4

(*c*)

	TTh	Th	H	T	O
		(2)	(8)	(8)	
		7	2	8	9
×					9
	6	5	6	0	1

2. (*a*) **Step 1.** Multiply 4 ones by 4.
4 × 4 = 16 ones
1 ten 6 ones
Write 6 in the ones column and carry 1 to the tens column.

	Th	H	T	O
		(1)	(1)	
	1	2	3	4
×				4
	4	9	3	6

Step 2. Multiply 3 tens by 4.
3 × 4 = 12 and 12 tens + 1 ten (carried over)
= 13 tens = 1 hundred 3 tens
Write 3 in the tens column and carry 1 to the hundreds column.
Step 3. Multiply 2 hundreds by 4.
2 × 4 = 8 hundreds and 8 hundreds + 1 hundred (carried over)

= 9 hundreds

Write 9 in the hundreds column.

Step 4. Multiply 1 thousand by 4.

$1 \times 4 = 4$ thousands

Write 4 in the thousands column.

Thus, $1234 \times 4 = 4936$

(*b*) **Step 1.** Multiply 9 ones by 3.

$9 \times 3 = 27$ ones

$= 2$ tens 7 ones

Write 7 in the ones column and carry 2 to the tens column.

	TTh	Th	H	T	O
	(1)		(2)	(2)	
		6	1	6	9
×					3
	1	8	5	0	7

Step 2. Multiply 6 tens by 3.

$6 \times 3 = 18$ tens and 18 tens + 2 tens (carried over)

$= 20$ tens $= 2$ hundreds 0 tens

Write 0 in the tens column and carry 2 to the hundreds column.

Step 3. Multiply 1 hundred by 3.

$1 \times 3 = 3$ hundreds and 3 hundreds + 2 hundred (carried over) $= 5$ hundreds

Write 5 in the hundreds column.

Step 4. Multiply 6 thousands by 3.

$6 \times 3 = 18$ thousands

Write 8 in the thousands column and carry 1 to the ten thousands column.

Thus, $6169 \times 3 = 18507$.

(*c*)

	Th	H	T	O
	(1)	(1)		
	2	3	4	1
×				4
	9	3	6	4

(*d*)

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

(*e*)

	TTh	Th	H	T	O
	(8)	(7)			
		9	8	1	1
×					9
	8	8	2	9	9

(*f*)

	TTh	Th	H	T	O
	(4)	(3)	(3)	(2)	
		8	7	6	5
×					5
	4	3	8	2	5

(*g*)

	TTh	Th	H	T	O
	(7)	(6)	(5)	(3)	
		9	8	7	4
×					8
	7	8	9	9	2

(*h*)

	TTh	Th	H	T	O
	(4)	(5)	(4)	(2)	
		6	8	7	4
×					6
	4	1	2	4	4

Challenge Question (Page 56)

The last digit of 7289 is 9 (odd).

The last digit of the multiplier is 9 (odd).

So, $9 \times 9 = 81$.

Since 81 ends in 1, the entire product must end in 1, making it an odd number.

Practice Time 3B

1. Step 1. Write the multiplicand 248 and multiplier 27 in proper place value columns.

	Th	H	T	O	
			(1)		
	(1)	(3)	(5)		
		2	4	8	← Multiplicand
×			2	7	← Multiplier
	1	7	3	6	← 248 × 7 ones
+	4	9	6	0	← 248 × 2 tens
	6	6	9	6	← Product

Step 2. Multiply 248 by 7 ones.

$248 \times 7 = 1736$ ones

Step 3. Multiply 248 by 2 tens.

248×2 tens $= 4960$ ones

Step 4. Add both partial products.

$1736 + 4960 = 6696$

Thus, $248 \times 27 = 6696$.

2.

	TTh	Th	H	T	O	
			3	0	1	← Multiplicand
×				5	9	← Multiplier
		2	7	0	9	← 301 × 9 ones
+	1	5	0	5	0	← 301 × 5 tens
	1	7	7	5	9	← Product

3.

	Th	H	T	O
		5	4	3
×			1	8
	4	3	4	4
+	5	4	3	0
	9	7	7	4

4.

	TTh	Th	H	T	O
		1	4	9	5
×				6	4
		5	9	8	0
+	8	9	7	0	0
	9	5	6	8	0

5.

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

6.

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

7.

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

Think Tank (Page 57)

No, it is not possible.

Since, the smallest 3-digit number is 100.

And, the smallest 2-digit number is 10.

And the product 100 × 10 = 1000, so the product less than 1000 is not possible.

Practice Time 3C

1. Expand the multiplier 249 and start multiplying by using the following steps:

	TTh	Th	H	T	O	
			3	2	5	
×			2	4	9	◄--- 200 + 40 + 9
		2	9	2	5	◄--- 325 × 9
	1	3	0	0	0	◄--- 325 × 40
+	6	5	0	0	0	◄--- 325 × 200
	8	0	9	2	5	◄--- Product

Step 1. Multiply 325 by 9 ones.

325 × 9 = 2925

Step 2. Multiply 325 by 4 tens.

325 × 40 = 13000

Step 3. Multiply 325 by 2 hundreds.

325 × 200 = 65000

Step 4. Add the partial products.

2925 + 13000 + 65000 = 80925

Thus, 325 × 249 = 80925.

2. Expand the multiplier 413 and start multiplying by using the following steps:

	L	TTh	Th	H	T	O	
				7	0	9	
×				4	1	3	◄--- 400 + 10 + 3
			2	1	2	7	◄--- 709 × 3
			7	0	9	0	◄--- 709 × 10
+	2	8	3	6	0	0	◄--- 709 × 400
	2	9	2	8	1	7	◄--- Product

Step 1. Multiply 709 by 3 ones.

709 × 3 = 2127 ones

Step 2. Multiply 709 by 1 ten.

709 × 10 = 7090

Step 3. Multiply 709 by 4 hundreds.

709 + 400 = 283600

Step 4. Add the partial products.

2127 + 7090 + 283600 = 292817

Thus, 709 × 413 = 292817.

3.

	TTh	Th	H	T	O	
			3	7	2	
×			1	6	5	◄--- 100 + 60 + 5
		1	8	6	0	◄--- 372 × 5
	2	2	3	2	0	◄--- 372 × 60
+	3	7	2	0	0	◄--- 372 × 100
	6	1	3	8	0	◄--- Product

Thus, 372 × 165 = 61380

4.

	TTh	Th	H	T	O	
			2	4	8	
×			4	0	3	◄--- 400 + 0 + 3
			7	4	4	◄--- 248 × 3
		0	0	0	0	◄--- 248 × 0
+	9	9	2	0	0	◄--- 248 × 400
	9	9	9	4	4	◄--- Product

Thus, 248 × 403 = 99944

5.

	TTh	Th	H	T	O	
			2	7	3	
×			3	0	4	◄--- 300 + 0 + 4
		1	0	9	2	◄--- 273 × 4
		0	0	0	0	◄--- 273 × 0
+	8	1	9	0	0	◄--- 273 × 300
	8	2	9	9	2	◄--- Product

Thus, 273 × 304 = 82992

6.

	L	TTh	Th	H	T	O	
				5	0	4	
×				3	3	2	◄--- 300 + 30 + 2
			1	0	0	8	◄--- 504 × 2
		1	5	1	2	0	◄--- 504 × 30
+	1	5	1	2	0	0	◄--- 504 × 300
	1	6	7	3	2	8	◄--- Product

Thus, 504 × 332 = 167328

7.

	TTh	Th	H	T	O	
			5	5	5	
×			1	2	5	◄--- 100 + 20 + 5
		2	7	7	5	◄--- 555 × 5
	1	1	1	0	0	◄--- 555 × 20
+	5	5	5	0	0	◄--- 555 × 100
	6	9	3	7	5	◄--- Product

Thus, 555 × 125 = 69375

8.

	L	TTh	Th	H	T	O	
				5	8	9	
×				2	5	1	◄--- 200 + 50 + 1
				5	8	9	◄--- 589 × 1
		2	9	4	5	0	◄--- 589 × 50
+	1	1	7	8	0	0	◄--- 589 × 200
	1	4	7	8	3	9	◄--- Product

Thus, 589 × 251 = 147839

Think Tank (Page 58)

Let the two different pairs of 3-digit numbers: 200, 600 and 300, 400 such that
$200 \times 600 = 120000$ and $300 \times 400 = 120000$.
Similarly, 120, 150, such that $120 \times 150 = 18000$
And 100, 180, such that $100 \times 180 = 18000$.
(Answer may vary)

Think Tank (Page 59)

$\because$ 1 bundle contains 100 notes
$\therefore$ 17 bundles contain $17 \times 100 = 1700$ notes.
$\therefore$ 1700 notes of ₹10 each will amount to $1700 \times$ ₹10 = ₹17000.

Practice Time 3D

1. (*a*) $37 \times 10 = \underline{370}$ (*b*) $268 \times 100 = \underline{26800}$

(*c*) $3412 \times 30 = \underline{102360}$ (*d*) $\underline{93} \times 1000 = 93000$

(*e*) $246 \times \underline{10} = 2460$ (*f*) $43 \times 400 = \underline{17200}$

2. (*a*) $372 \times 2\overline{0} = 74\overline{0}$ (*b*) $45 \times 3\overline{0} = 135\overline{0}$

(*c*) $578 \times 4\overline{0} = 2312\overline{0}$ (*d*) $478 \times 8\overline{00} = 382\overline{400}$

(*e*) $274 \times 1\overline{00} = 274\overline{00}$ (*f*) $372 \times 2\overline{000} = 744\overline{000}$

(*g*) $278 \times 3\overline{00} = 834\overline{00}$ (*h*) $48 \times 4\overline{000} = 192\overline{000}$

Think Tank (Page 60)

1. 5×8 tens $= 5 \times 80 = 400$

2. $250 \times 4 \times 4 = 1000 \times 4 = 4000$

3. $1001 \times 10 = 10010$; The number of zeros are 3

4. Cost of one book = ₹180

Cost of 100 books = ₹180 × 100 = ₹18000.

Practice Time 3E

1. (*a*) $457 \times 0 = \underline{0}$ (*b*) $761 \times \underline{1} = 761$

(*c*) $\underline{278} \times 1 = 278$ (*d*) $321 \times 1 = \underline{321}$

(*e*) $3241 \times \underline{0} = 0$ (*f*) $48 \times 165 = 165 \times \underline{48}$

(*g*) $432 \times 522 = \underline{522} \times 432$

(*h*) $169 \times \underline{215} = 215 \times 169$

(*i*) $12 \times (16 \times 19) = (12 \times \underline{16}) \times 19$

(*j*) $62 \times (\underline{93} \times 49) = (62 \times 93) \times 49$

(*k*) $27 \times (9 + 15) = (27 \times 9) + (27 \times \underline{15})$

(*l*) $102 \times (100 + 58) = (102 \times \underline{100}) + (102 \times 58)$

2. (*a*) – (*iv*) (*b*) – (*iii*)

(*c*) – (*i*) (*d*) – (*v*)

(*e*) – (*ii*)

Practice Time 3F

1. (*a*)

	Th	H	T	O			Th	H	T	O	
			7	8	→				8	0	← Rounded up to the nearest ten
×			8	2	→	×			8	0	← Rounded down to the nearest ten
							6	4	0	0	← Estimated product

Actual product = $78 \times 82 = 6396$

(*b*)

	Th	H	T	O			Th	H	T	O	
			4	2	→				4	0	← Rounded down to the nearest ten
×			6	8	→	×			7	0	← Rounded up to the nearest ten
							2	8	0	0	← Estimated product

Actual product = 2856

(*c*)

	TTh	Th	H	T	O			TTh	Th	H	T	O	
			3	9	7	→				4	0	0	← Rounded up to the nearest ten
×				2	6	→	×				3	0	← Rounded up to the nearest ten
								1	2	0	0	0	← Estimated product

Actual product = 10322

(*d*)

	Th	H	T	O
		2	5	4
×			1	4

→ ×

Th	H	T	O	
	2	5	0	← Rounded down to the nearest ten
		1	0	← Rounded down to the nearest ten
2	5	0	0	← Estimated product

Actual product = 3556

(*e*)

	L	TTh	Th	H	T	O
				4	2	7
×				2	6	8

→ ×

L	TTh	Th	H	T	O	
			4	3	0	← Rounded up to the nearest ten
			2	7	0	← Rounded up to the nearest ten
1	1	6	1	0	0	← Estimated product

Actual product = 114436

(*f*)

	L	TTh	Th	H	T	O
				3	3	1
×				5	2	7

→ ×

L	TTh	Th	H	T	O	
			3	3	0	← Rounded down to the nearest ten
			5	3	0	← Rounded up to the nearest ten
1	7	4	9	0	0	← Estimated product

Actual product = 174437

2. (*a*)

	TTh	Th	H	T	O
			1	7	6
×			2	4	8

→ ×

TTh	Th	H	T	O	
		2	0	0	← Rounded up to the nearest hundred
		2	0	0	← Rounded down to the nearest hundred
4	0	0	0	0	← Estimated product

Actual product = 43648

(*b*)

	L	TTh	Th	H	T	O
				3	2	5
×				6	7	8

→ ×

L	TTh	Th	H	T	O	
			3	0	0	← Rounded down to the nearest hundred
			7	0	0	← Rounded up to the nearest hundred
2	1	0	0	0	0	← Estimated product

Actual product = 220350

(*c*)

	TTh	Th	H	T	O
				9	0
×			6	2	7

→ ×

TTh	Th	H	T	O	
		1	0	0	← Rounded up to the nearest hundred
		6	0	0	← Rounded down to the nearest hundred
6	0	0	0	0	← Estimated product

Actual product = 56430

(*d*)

	L	TTh	Th	H	T	O
				2	3	5
×				7	6	8

→ ×

L	TTh	Th	H	T	O	
			2	0	0	← Rounded down to the nearest hundred
			8	0	0	← Rounded up to the nearest hundred
1	6	0	0	0	0	← Estimated product

Actual product = 180480

(*e*)

	L	TTh	Th	H	T	O
				5	5	4
×				6	5	4

→ ×

L	TTh	Th	H	T	O	
			6	0	0	← Rounded up to the nearest hundred
			7	0	0	← Rounded up to the nearest hundred
4	2	0	0	0	0	← Estimated product

Actual product = 362316

(*f*)

TTh	Th	H	T	O
		2	0	4
×		3	2	0

→

TTh	Th	H	T	O
		2	0	0
×		3	0	0
6	0	0	0	0

← Rounded down to the nearest hundred
← Rounded down to the nearest hundred
← Estimated product

Actual product = 65280

Practice Time 3G

1. Cost of one earring = ₹64
Total cost of 99 earrings = ₹64 × 99 = ₹6336

	Th	H	T	O
			6	4
×			9	9
		5	7	6
+	5	7	6	0
₹	6	3	3	6

Thus, the cost of 99 earrings is ₹6336

2. Price of one book = ₹98
Price of 485 books = 485 × 98 = ₹47530

	TTh	Th	H	T	O
			4	8	5
×				9	8
		3	8	8	0
+	4	3	6	5	0
₹	4	7	5	3	0

Thus, the cost of 485 books is ₹47530

3. Number of passengers who can sit in a bus = 65
Number of passengers who can sit in 435 buses
= 435 × 65 = 28275

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

Thus, 28275 passengers can sit in 435 buses.

4. Number of mangoes contained in a box = 144
Number of mangoes contained in 208 boxes
= 144 × 208 = 29952

	TTh	Th	H	T	O
			1	4	4
×			2	0	8
		1	1	5	2
+	2	8	8	0	0
	2	9	9	5	2

Thus, 29952 mangoes are there in 208 boxes.

5. Number of books in one almirah = 353
Number of books in 234 almirahs
= 353 × 234 = 82602

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

Thus, 82602 books can be kept in 234 almirahs.

6. The price of one table = ₹1165
The price of 100 tables = ₹1165 × 100
[Add '00' after 1165 × 1]
= ₹116500
Thus, the price of 100 tables is ₹116500.

7. Company price of one tricycle = ₹2553
Price of 200 tricycles = ₹2553 × 200
[Add '00' after 2553 × 2]
= ₹510600
Thus, the price of 200 tricycles is ₹510600.

8. Packs of playing cards in a box = 500
Number of playing cards in each pack = 52
Number of playing cards in the box = 52 × 500
[Add '00' after 52 × 5]
Thus, 26000 playing cards are there in the box.

9. Number of apples in one tree = 195
Number of apples in 184 trees = 195 × 184
= 35880

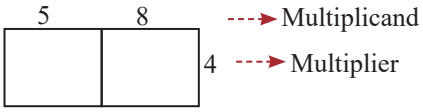
	TTh	Th	H	T	O
			1	9	5
×			1	8	4
			7	8	0
	1	5	6	0	0
+	1	9	5	0	0
	3	5	8	8	0

Thus, estimated number of apples to the nearest hundred is 35900.

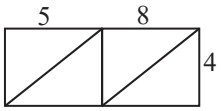
Practice Time 3H

1. Draw a 2 × 1 table as 58 × 4 has 2-digit and 1-digit numbers respectively and follow the given steps:

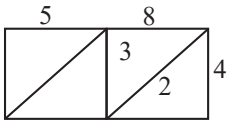
Step 1. Write the two numbers on the top and side of the table as shown.



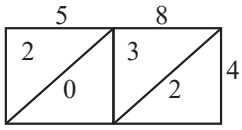
Step 2. Draw the diagonal in each box as shown



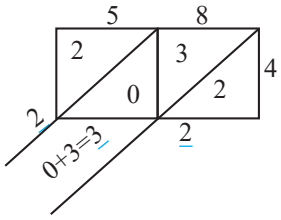
Step 3. Multiply 8 by 4 and write product in the box below 8 as shown.



Step 4. Multiply 5 by 4 and write the product same as before.



Step 5. Add the numbers in boxes diagonally as shown.

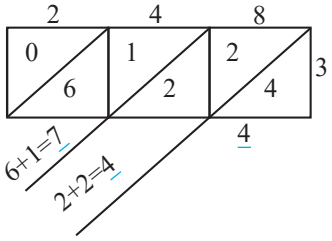


The answer is read from left to right.

Product = 232

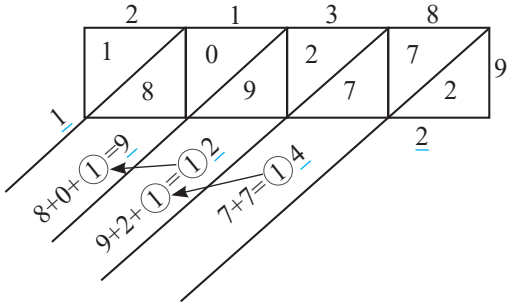
Thus, 58 × 4 = 232

2. Here, we have to multiply a 3-digit number by a 1-digit number, So, we draw 3 × 1 table as shown and proceed further as above.



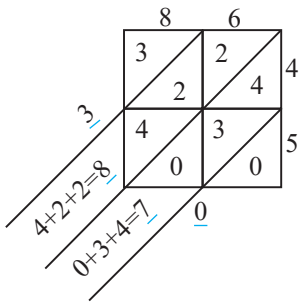
Thus, 248 × 3 = 744

3. Here, we have to multiply a 4-digit number by 1-digit number, so, we draw a 4 × 1 table and proceed as before.



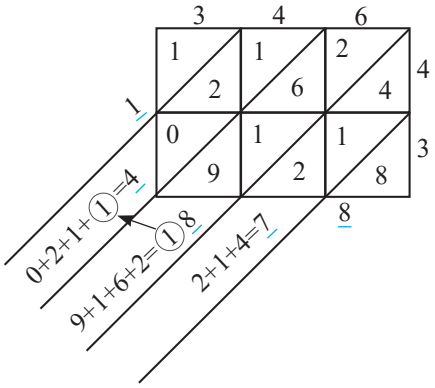
Thus, 2138 × 9 = 19242

4. Here, we have to multiply a 2-digit number by 2-digit number, so, we draw a 2 × 2 table and proceed as shown.



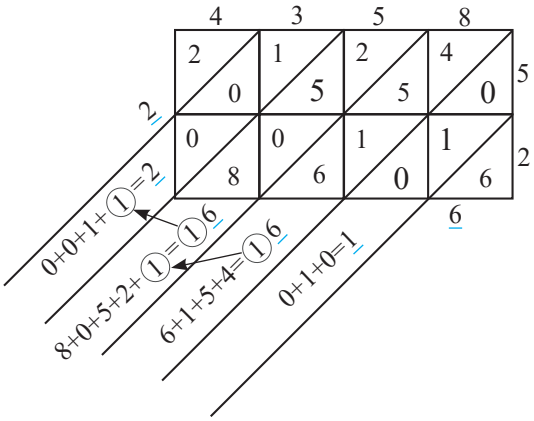
Thus, 86 × 45 = 3870

5. Since, we have to multiply a 3-digit number by a 2-digit, so, we draw a lattice of 3 × 2 and proceed as shown. The product is 14878.



Thus, 346 × 43 = 14878

6. Here, we have to multiply a 4-digit number by a 2-digit number, so, we draw a 4 × 2 lattice multiplication and do the process. The product is 226616.



Thus, 4358 × 52 = 226616.

Mental Maths (Page 65)

1. (*c*); 100 × 25 × 0 = 0
2. (*a*); 325 × 48 = 325 × 40 + 325 × 8
3. (*b*); 48 × (24 × 20) = (48 × 24) × 20
4. (*c*); 9999 × 1000 = 1000 × 9999
5. (*a*); 65 × 0 × 287 = 0

Challenge Question (Page 66)

	TTh	Th	H	T	O
			A	A	A
×			A	A	A
	A	B	C	B	A

	TTh	Th	H	T	O
			1	1	1
×			1	1	1
			1	1	1
		1	1	1	0
+	1	1	1	0	0
	1	2	3	2	1

Thus, A = 1, B = 2, C = 3

Chapter Assessment

1. (*a*) – (*iii*); If any number is multiplied by 500, minimum number of zeros will be 2.

(*b*) – (*ii*); 15 notes of ₹500 = ₹7500
20 notes of ₹200 = ₹4000
Total withdrawn money
= ₹7500 + ₹4000 = ₹11,500

(*c*) – (*ii*);

	TTh	Th	H	T	O
		2	3	0	7
×					A
	1	1	5	B	5

	TTh	Th	H	T	O
		①		③	
		2	3	0	7
×					**5**
	1	1	5	**3**	5

(*d*) – (*iii*); 25 × 140 × 54 is not same as 25 × 8 × 20 × 54

(*e*) – (*iii*); Labourer earns ₹300 daily
5 months 5 days = 5 × 30 + 5 = 155 days
Total money earned in 155 days = 155 × ₹300
= ₹46500

2. Each sack weighs = 65 kg
50 sacks weigh = (65 × 50) = 3250 kg
Total weight of wheat being transported by three trucks = 3250 × 3 = 9750 kg
Thus, 9750 kg of wheat is being transported.
3. Number of books printed in a day = 985
Number of books printing in month of March
= 985 × 31 = 30535 books
Thus, total number of books printed in the month of March is 30535.
4. Cost of one toy train = ₹350
Cost of 7 toy trains = ₹350 × 7 = ₹2450
Cost of one teddy bear = ₹250
Cost 7 teddy bears = ₹250 × 7 = ₹1750
Total amount paid = ₹2450 + ₹1750 = ₹4200
5. Distance covered in 1 hour = 252 km
Distance covered in 15 hours = 252 × 15 = 3780 km
Thus, distance covered in 15 hours is 3780 km.
6. Number of rows = 456
Number of seats in each row = 20
Number of seats in the stadium = 456 × 20 = 9120
Thus, there are 9120 seats in the stadium.
7. Average fare collected for each rider of Delhi Metro = ₹40
Number of people for ride in quarter of an hour = 2599
Amount of money collected in one hour
= 2599 × 40 × 4 = ₹415840
Thus, ₹415840 was collected in hour.
8. Money each student contributed for flood relief fund = ₹75
Number of students studying in the school = 2718
Total amount collected = 2718 × ₹75 = ₹2,03,850
Thus, Total amount collected is ₹2,03,850.
9. Amount of calories in one small bar of chocolate = 235
Amount of calories in 125 bars of chocolates
= 235 × 125 = 29375
Thus, 125 small bars of chocolate contains 29375 calories.
We should burn 300–500 calories in exercise daily to stay healthy.
10. Number of people in each sector = 600 approx.
Number of people in 150 sectors = 600 × 150
= 90000
Thus, approximate population of city = 90000.

11. Number of sheets in one ream of paper = 500
Number of sheets in 225 ream of paper
= 500 × 225 = 112500
Thus, 112500 sheets are there in 225 such reams.

12. Number of guests = 25
Number of friends each guest will bring = 2
Number of guests for Mr. Khurana
= 25(1 + 2) = 25 × 3 = 75
Number of momos everyone eats = 7
Number of momos Mr. Khurana should order
= 75 × 7 = 525.

13. Total Number of students in art class
= 285 × 2 = 570
Cost of each brush = ₹55
Total cost of brushes= 570 × ₹55 = ₹31,350
Thus, the total cost of brushes is ₹31,350.

14. Cost of apples = ₹120 per kg
Cost of grapes = ₹178 per kg
Cost of mangoes = ₹85 per kg
Cost of oranges = ₹45 per kg

(*a*) Cost of 5 kg of grapes = ₹178 × 5 = ₹890
Cost of 3 kg of mangoes = ₹85 × 3 = ₹255
Total cost = ₹(890 + 255) = ₹1145

(*b*) Cost of 8 kg of oranges = ₹45 × 8 = ₹360
Cost of 4 kg of apples = ₹120 × 4 = ₹480
Total cost = ₹(360 + 480) = ₹840

(*c*) Cost of 2 kg of apples = ₹120 × 2 = ₹240
Cost of 2 kg of grapes = ₹178 × 2 = ₹356
Cost of 2 kg of mangoes = ₹85 × 2 = ₹170
Cost of 2 kg of oranges = ₹45 × 2 = ₹90
Total cost of these items
= ₹(240 + 356 + 170 + 90) = ₹856

(*d*) Cost of 2 kg apples = ₹120 × 2 = ₹240
Cost of 3 kg of oranges= ₹45 × 3 = ₹135
Cost of 1 kg of grapes = ₹178
Total cost of these items
= ₹(240 + 135 + 178) = ₹553
Since, 553 > 500, she has not enough money to purchase these quantity of fruits.

CHAPTER 4 : DIVISION

Let's Recall

1. (*a*) To divide 15 by 3, we read the table of 3 till 15.
1 × 3 = 3; 2 × 3 = 6; 3 × 3 = 9; 4 × 3 = 12; 5 × 3 = 15 (Stop)
Thus, 15 ÷ 3 = 5.

(*b*) To divide 64 by 8, we read the table of 8 till 64.
1 × 8 = 8; 2 × 8 = 16; 3 × 8 = 24; 4 × 8 = 32; 5 × 8 = 40; 6 × 8 = 4 8; 7 × 8 = 56; 8 × 8 = 64 (Stop)
Thus, 64 ÷ 8 = 8.

(*c*) To divide 81 by 9, we read the table of 9 till 81.
1 × 9 = 9; 2 × 9 = 18; 3 × 9 = 27; 4 × 9 = 36; 5 × 9 = 45; 6 × 9 = 54; 7 × 9 = 63; 8 × 9 = 72; 9 × 9 = 81 (Stop)
Thus, 81 ÷ 9 = 9.

2. (*a*) 75 ÷ 5 = 15; 75 ÷ 15 = 5

(*b*) 480 ÷ 4 = 120; 480 ÷ 120 = 4

(*c*) 384 ÷ 48 = 8; 384 ÷ 8 = 48

3. (*a*)

Dividend: 54; Divisor: 2; Quotient: 27; Remainder: 0

$$\begin{array}{r} 27 \\ 2\overline{)54} \\ -\,4 \\ \hline 14 \\ -\,14 \\ \hline 0 \end{array}$$

Checking: Quotient × Divisor + Remainder
= 27 × 2 + 0 = 54 = Dividend
Thus, the answer is correct.

(*b*)

Dividend: 56; Divisor: 7; Quotient: 8; Remainder: 0

$$\begin{array}{r} 8 \\ 7\overline{)56} \\ -\,56 \\ \hline 0 \end{array}$$

Checking: Quotient × Divisor + Remainder
= 8 × 7 + 0 = 56 = Dividend
Thus, the answer is correct.

(*c*)

Dividend: 547; Divisor: 3; Quotient: 182; Remainder: 1

$$\begin{array}{r} 182 \\ 3\overline{)547} \\ -\,3 \\ \hline 24 \\ -\,24 \\ \hline 07 \\ -\,6 \\ \hline 1 \end{array}$$

Checking: Quotient × Divisor + Remainder
= 182 × 3 + 1 = 546 + 1 = 547 = Dividend
Thus, the answer is correct.

4. Cost of 1 dozen eggs = ₹96
Cost of 1 egg = ₹96 ÷ 12 = ₹8
(∵ 1 dozen = 12 units)
Thus, cost of 1 egg is ₹8.

$$\begin{array}{r} 8 \\ 12\overline{)96} \\ -\,96 \\ \hline 0 \end{array}$$

Think Tank (Page 72)

False: Dividing 0 by any number gives a quotient equal to 0.

Practice Time 4A

1.
```
9) 153 (17
 –  9
   ----
    63
 –  63
   ----
     0
   ----
```
Dividend = 153 Divisor = 9
Quotient = 17 Remainder = 0

2.
```
8) 215 (26
 – 16
   ----
    55
 –  48
   ----
    07
   ----
```
Dividend = 215 Divisor = 8
Quotient = 26 Remainder = 7

3. $4216 \div 1 = 4216$ **4.** $712 \div 712 = 1$
5. $0 \div 152 = 0$ **6.** $0 \div 278 = 0$
7. $0 \div 1024 = 0$ **8.** $3247 \div 3247 = 1$

Fast Check (Page 74)

1. $6)\overline{37^{1}26}$ = 6 21 **2.** $8)\overline{50^{2}5^{1}6}$ = 6 3 2 **3.** $9)\overline{88^{7}204}$ = 9 800 R4

Practice Time 4B

1. (*a*) We write the dividend inside the division brackets and the divisor outside the brackets as shown.
```
2) 5029 (2514 <-- Q
 –  4
   ----
    10
 –  10
   ----
     02
 –    2
   ----
     09
 –    8
   ----
      1 <-- R
```
Step 1. Start dividing from the highest place. Since, 5 > 2. Divide 5 thousands by 2. We have quotient 2 and the remainder 1.

Step 2. Bring down 0 hundreds along with the remainder 1, making it 10 hundreds.

Step 3. Divide 10 hundreds by 2. We have quotient 5 and the remainder 0.

Step 4. Bring down tens digit 2 and divide 2 tens by 2. We have quotient 1 and remainder 0.

Step 5. Bring down ones digit 9 and divide 9 ones by 2. We have quotient 4 and remainder 1.

So, the quotient is 2514 and the remainder is 1.

> **Checking:** Divisor × Quotient + Remainder
> $= 2 \times 2514 + 1 = 5028 + 1 = 5029$ = Dividend
> So, the answer is correct.

Thus, quotient = 2514 and Remainder = 1.

(*b*) **Step 1.** Since, 6 > 3, so, divide 35 hundreds by 6. We have, quotient = 5 and remainder = 5.
```
6) 3536 (589 <-- Q
 – 30
   ----
   053
 –  48
   ----
     56
 –   54
   ----
     02 <-- R
```
Step 2. Bring down 3 tens along with the remainder 5, making it 53 tens.

Step 3. Divide 53 tens by 6. We have quotient 8 and the remainder 5.

Step 4. Bring down 6 ones along with the remainder 5, making it 56 ones.

Step 5. Divide 56 ones by 6. We have quotient 9 and the remainder 2.

So, the quotient is 589 and the remainder is 2.
Thus, Q = 589 and R = 2.

(*c*) to (*h*) — Do it yourself (same as above)

2. (*a*) Given, Quotient = 809; Divisor = 6, Dividend = 4858
We know that, Remainder = Dividend – Quotient × Divisor
Remainder $= 4858 - 809 \times 6 = 4858 - 4854 = 4$

(*b*) Quotient = 568, Divisor = 5, Dividend = 2843 (Given)
According to formula,
Remainder = Dividend – Quotient × Divisor
Remainder $= 2843 - 568 \times 5 = 2843 - 2840 = 3$

(*c*) Quotient = 914, Divisor = 9, Dividend = 8234
According to formula,
Remainder = Dividend – Quotient × Divisor
Remainder $= 8234 - 914 \times 9 = 8234 - 8226 = 8$

Practice Time 4C

1. (*a*) **Step 1.** Since, 3 < 11, divide the first leading partial dividend 30 by 11.

11) 3092 (281 ← Q
Divisor
− 22 The first leading partial dividend
089
− 88
012
− 11
01 ← R

Now, $11 \times 2 = 22$ and $11 \times 3 = 33$

As, $22 < 30$ and $33 > 30$

Thus, 11 goes into 30 two times.

Write 2 at the hundreds place of the quotient and 22 below 30.

Step 2. Subtract 22 from 30 to get 8 as the remainder.

Bring down 9 to make it 89.

Step 3. Divide 89 by 11.

11 goes into 89 eight times as $11 \times 8 = 88 < 89$ and $11 \times 9 = 99 > 89$

Write 8 at the tens place of the quotient and 88 below 89

Step 4. Subtract 88 from 89 to get 1 as the remainder. Bring down 2 to make it 12.

Step 5. Divide 12 by 11.

11 goes into 12 once as $11 \times 1 = 11 < 12$ and $11 \times 2 = 22 > 12$

Step 6. Subtract 11 from 12 to get 1 as the remainder.

Thus, Q = 281 and R = 1

Checking: Quotient × Divisor + Remainder
$= 281 \times 11 + 1$
$= 3091 + 1 = 3092 =$ Dividend
Thus, the answer is correct.

(*b*) **Step 1.** Since, $2 < 14$, so, divide the first leading partial 14 dividend 29 by 14.

14) 2974 (212
− 28 The first leading partial dividend
017
− 14
34
− 28
06

Now, $14 \times 2 = 28$ and $14 \times 3 = 42$

As, $28 < 29$, $42 > 29$.

Thus, 14 goes into 29 two times.

Write 2 at the hundreds place of the quotient and 28 below 29.

Step 2. Subtract 28 from 29 to get 1 as the remainder.

Bring down 7 to make it 17.

Step 3. Divide 17 by 14.

14 goes into 17 once as $14 \times 1 = 14 < 17$ and $14 \times 2 = 28 > 17$

Write 1 at the tens place of the quotient and 14 below 17.

Step 4. Subtract 14 from 17 to get 3 as the remainder. Bring down 4 to make it 34.

Step 5. Divide 34 by 14.

14 goes into 34 two times as $14 \times 2 = 28 < 34$ and $14 \times 3 = 42 > 34$

Step 6. Subtract 28 from 34 to get 6 as the remainder.

Thus, Q = 212 and R = 6

Checking: Quotient × Divisor + Remainder
$= 212 \times 14 + 6$
$= 2968 + 6 = 2974 =$ Dividend
Thus, the answer is correct.

(*c*) to (*h*) — Do it yourself (same as above)

2. (*a*) $7256 \div 12$

12) 7256 (604 ← Q
− 72
056
− 48
08 ← R

Thus, Q = 604, R = 8

(*b*) $5872 \div 18$

18) 5872 (326 ← Q
− 54
47
− 36
112
− 108
4 ← R

Thus, Q = 326, R = 4

(*c*) $3897 \div 63$

63) 3897 (61 ← Q
− 378
117
− 63
54 ← R

Thus, Q = 61, R = 54

(*d*) 8775 ÷ 21

```
21) 8775 (417 ←-- Q
  – 84
    037
  –  21
     165
  –  147
      18 ←---- R
```

Thus, Q = 417, R = 18

(*e*) 25284 ÷ 14

```
14) 25284 (1806 ←-- Q
  – 14
    112
  – 112
      084
  –    84
        0 ←---- R
```

Thus, Q = 1806, R = 0

(*f*) 29045 ÷ 28

```
28) 29045 (1037 ←-- Q
  – 28
    0104
  –   84
      205
  –   196
      009 ←---- R
```

Thus, Q = 1037, R = 9

(*g*) 13207 ÷ 17

```
17) 13207 (776 ←-- Q
  – 119
    0130
  –  119
     0117
  –   102
       15 ←---- R
```

Thus, Q = 776, R = 15

(*h*) 28700 ÷ 26

```
26) 28700 (1103 ←-- Q
  – 26
     27
  –  26
     100
  –   78
     022 ←---- R
```

Thus, Q = 1103, R = 22

3. (*a*) 1020

```
17) 1020 (60
    102    ↑
     00    Q
```

(*b*) 980

```
17) 980 (57 ←-- Q
  – 85
    130
  – 119
     11 ←---- R
```

(*c*) 867

```
17) 867 (51 ←-- Q
  – 85
     17
  –  17
     00
```

(*d*) 1156

```
17) 1156 (68 ←-- Q
  – 102
     136
  –  136
      00
```

Hence, the number 867 gives the smallest quotient when divided by 17.
So, option (*c*) is correct

Practice Time 4D

1. 78 ÷ 10

```
10) 78 (7
  – 70
    08
```

Q = 7, R = 8

2. 420 ÷ 10

```
10) 420 (42
  – 40
     20
  –  20
      0
```

Q = 42, R = 0

3. 936 ÷ 100

```
100) 936 (9
   – 900
      36
```

Q = 9, R = 36

4. 2796 ÷ 10

```
10) 2796 (279
  – 20
    079
  –  70
     096
  –   90
      06
```

Q = 279, R = 6

5. 2365 ÷ 100

```
100) 2365 (23
   – 200
     0365
   –  300
      065
```

Q = 23, R = 65

6. 23708 ÷ 100

```
100) 23708 (237
   – 200
     0370
   –  300
      0708
   –   700
       008
```

Q = 237, R = 8

7. 5064 ÷ 1000

1000) 5064 (5
− 5000
0064

Q = 5, R = 64

8. 2033 ÷ 1000

1000) 2033 (2
− 2000
0033

Q = 2, R = 33

9. 13655 ÷ 1000

1000) 13655 (13
− 1000
3655
− 3000
0655

Q = 13, R = 655

10. 23009 ÷ 1000

1000) 23009 (23
− 2000
03009
− 3000
0009

Q = 23, R = 9

11. 99867 ÷ 1000

1000) 99867 (99
− 9000
09867
− 9000
867

Q = 99, R = 867

12. 101568 ÷ 1000

1000) 101568 (101
− 1000
001568
− 1000
568

Q = 101, R = 568

Challenge Question (Page 79)

Dividend = Quotient × Divisor + Remainder

So, 123 × 4 = 492

Thus, 492 ÷ 3 = 164 (Quotient).

Practice Time 4E

1. (*a*) (*ii*) ∵ 93 rounded off to the nearest tens is 90 and 27 rounded off to the nearest tens is 30 ∴ 90 ÷ 30 = 3

(*b*) (*iv*) ∵ 903 rounded off to the nearest hundreds is 900 and 62 rounded off to the nearest tens is 60

∴ 900 ÷ 60 = 15

(*c*) (*iii*) ∵ 573 rounded off to the nearest hundreds is 600 and 61 rounded off to the nearest tens is 60

∴ 600 ÷ 60 = 10

(*d*) (*i*) ∵ 305 rounded off to the nearest hundreds is 300 and 63 rounded off to the nearest tens is 60

∴ 300 ÷ 60 = 5

2. (*a*) 88 rounded off to the nearest tens is 90.

34 rounded off to the nearest tens is 30.

Estimated quotient

30) 90 (3
− 90
0

90 ÷ 30 = 3

Thus, the estimated quotient = 3.

(*b*) 257 rounded off to the nearest hundreds is 300.

28 rounded off to the nearest tens is 30.

Estimated quotient

30) 300 (10
− 30
00
− 00
0

300 ÷ 30 = 10

Thus, the estimated quotient = 10.

(*c*) and (*d*) — Do it yourself (same as above)

(*e*) 2402 rounded off to the nearest thousands is 2000.

44 rounded off to the nearest tens is 40.

Estimated quotient

40) 2000 (50
− 200
00
− 00
0

2000 ÷ 40 = 50

Thus, the estimated quotient = 50.

(*f*) to (*h*) — Do it yourself (same as above)

Think Tank (Page 81)

In 60 seconds hummingbird flaps wings = 4800 times

In 20 seconds hummingbird flaps wings = (4800 ÷ 60) × 20 = 80 × 20 = 1600 times.

Practice Time 4F

1. Cost of one pen = ₹8

Total amount = ₹472

Number of pens can be bought = ₹472 ÷ ₹8 = 59 pens

Thus, 59 pens can bought for ₹472

8) 472 (59
− 40
72
− 72
0

2. Total number of pages = 1224

Number of notebooks = 12

Number of pages in each notebook = 1224 ÷ 12 = 102

12) 1224 (102
− 12
024
− 24
0

Thus, number of pages in each notebook is 102.

3. Total number of students = 812
Number of groups = 14
Number of students in each group
= 812 ÷ 14 = 58

```
14) 812 (58
  - 70
    112
  - 112
      0
```

Thus, number of students in each group is 58.

4. Total number of balls = 690
Number of boxes = 30
Number of ball in each box
= 690 ÷ 30 = 23

```
30) 690 (23
  - 60
    090
  - 90
     0
```

Thus, number of balls in each box is 23.

5. Greatest 4-digit number = 9999
Greatest 2-digit number = 99
And, 9999 ÷ 99 = 101
Thus, here we get **no** remainder.

```
99) 9999 (101
  - 99
    099
  - 99
     0
```

6. Total number of chairs = 3657
Number of rows = 80
Number of chairs in each row
= 3657 ÷ 80
⇒ Q = 45 and R = 57
Thus, number of chairs in each row is 45 and 57 chairs are left

```
80) 3657 (45
  - 320
    0457
  - 400
     057
```

7. Total number of book in the library = 4008
Number of shelves = 24
Number of books on each shelf
= 4008 ÷ 24 = 167
Thus, number of books on each shelf is 167.

```
24) 4008 (167
  - 24
    160
  - 144
     168
  - 168
       0
```

8. Total amount with Gyan
= ₹56,488
Amount given to Suhana =
Half of the amount Gyan has
= 56,488 ÷ 2 = 28,244
Money left with Gyan
= ₹28,244
Estimated amount = ₹30000
Thus, Gyan has approximately ₹30,000 left with him.

```
2) 56488 (28244
  - 4
    16
  - 16
    04
  - 4
    08
  - 8
    08
  - 8
     0
```

9. Number of notebooks sold in first month
= 255 dozen = 255 × 12 = 3060
Number of notebooks sold in second month
= 325 dozen = 325 × 12 = 3900
Difference in sales of notebooks
= 3900 – 3060= 840 notebooks
Thus, in the second month he sold **840** notebooks more.

10. Number of apples = 235
Number of pears = 184
Number of oranges = 122
Total number of fruits
= 235 + 184 + 122 = 541
Number of fruits in each basket = 25
Number of baskets required = 541 ÷ 25
Thus, she makes 21 baskets and 16 fruits are left over.

```
25) 541 (21
  - 50
    41
  - 25
    16
```

Mental Maths (Page 82)

1. (*b*); 8000 ÷ 100 = 80;

```
100) 8000 (80
   - 800
     00
   - 00
      0
```

2. (*a*); Divisor × Quotient + Remainder = Dividend

3. (*d*); Double of a number = 1020
So, the number itself = 1020 ÷ 2 = 510
So, half of the number = 510 ÷ 2 = 255

4. (*c*); 999 is the quotient when 9999 is divided by 10.

```
10) 9999 (999 ← Q
  - 90
    099
  - 90
    099
  - 90
    09 ← R
```

5. (*a*); We cannot divide a number by 0.

Chapter Assessment

1. (*a*) – (*i*); Divide 1331 by 11.

```
11) 1331 (121
  - 11
    23
  - 22
    011
  - 11
     0
```

Thus, the remainder is 0

(*b*) – (*ii*); The largest remainder possible on dividing a number by 17 is 16.

(*c*) – (*iv*); 232323 ÷ 23 = 10101.

```
23) 232323 (10101
  - 23
    023
  -  23
     023
  -   23
      0
```

(*d*) – (*ii*); 112 ÷ 7 = 16 and remainder is 0.

```
7) 112 (16
 - 7
   42
 - 42
   0
```

2. (*a*) False; A number divided by itself gives 1.

Let the number be 25. Then,

$25 \div 25 = 1 \neq 0$

(*b*) False; 0 divided by any number always gives 0.

Let the number be 5. Then $0 \div 5 = 0$

(*c*) False;

The quotient may be greater than the divisor.

Let the dividend be 15 and divisor be 3.

According to question

Here, quotient 5 > divisor (3).

```
3) 15 (5
 - 15
   0
```

(*d*) False; A number divided by itself always gives one (1).

Division by 1 is possible $\left(\because \frac{6}{1} = 6\right)$

(*e*) True;

Quotient = 4, Divisor = 9 and Remainder = 5

Dividend = Quotient × Divisor + Remainder

$41 = 4 \times 9 + 5$

$41 = 41$

Thus, statement is true.

(*f*) False.

```
100) 4007 (40 <-- Q
   - 400
     07  <-- R
```

4007 ÷ 100

Q = 40, R = 7

3.

	Question	Rounding off to 10s	Actual Q and R	Estimated Q and R
(*a*)	81 ÷ 18	80 ÷ 20	4, 9	4, 0
(*b*)	56 ÷ 23	60 ÷ 20	2, 10	3, 0
(*c*)	312 ÷ 59	310 ÷ 60	5, 17	5, 10
(*d*)	681 ÷ 53	680 ÷ 50	12, 45	13, 30
(*e*)	691 ÷ 51	690 ÷ 50	13, 28	13, 40

4. Total number of crayons = 6398

Number of crayons in each packet = 24

Number of packets = 6398 ÷ 24

```
24) 6398 (266 <-- Q
  - 48
    159
  - 144
    0158
  - 144
    14  <-- R
```

⇒ Q = 266 and R = 14

Thus, number of packet is 266 and 14 crayons are left over.

5. Product of two numbers = 9823

Smaller number = 47

Bigger number = 9823 ÷ 47

Thus, bigger number is 209.

```
47) 9823 (209
  - 94
    0423
  - 423
    0
```

6. Distance covered by aeroplane in 18 hours

= 9396 km

Distance covered by aeroplane in 1 hour

= 9396 ÷ 18

```
18) 9396 (522
  - 90
    039
  - 36
    036
  - 36
    0
```

Thus, aeroplane flies 522 km in one hour.

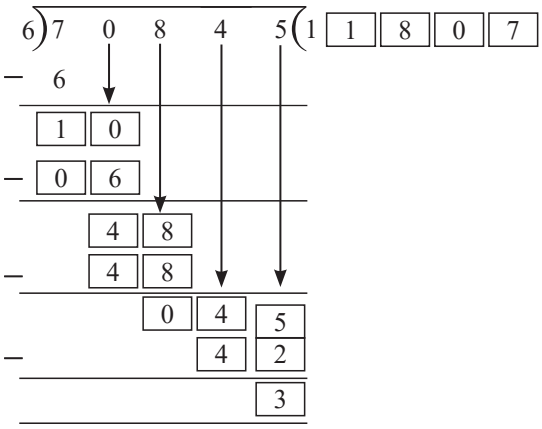
7. Required distance to travel by participants of cycle race in 12 laps = 2700 m

Required distance to travel by participants of cycle race in 1 lap = (2700 ÷ 12) m

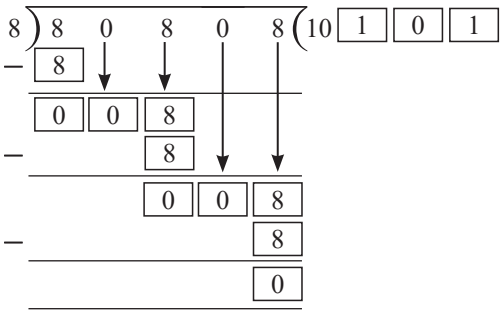
```
12) 2700 (225
  - 24
    030
  - 24
    060
  - 60
    0
```

Thus, 225 m should be covered in each lap.

8. (*a*)



(*b*)



9. Total amount collected = ₹2560
Amount of thirteen notes of ₹20 = ₹20 × 13 = ₹260
Remaining amount = ₹2560 – ₹260 = ₹2300
∴ Number of ₹100 notes = 2300 ÷ 100 = 23
Thus, Sudheshna have 23 notes of ₹100.

10. Boxes of apples bought by the shopkeeper = 9
Number of apples in each box =150
Total number of apples = 150 × 9 = 1350
Number of fresh apples = 1350 – 30 = 1320
(∵ 30 apples are rotten)
Number of apples in each of 6 boxes
= 1320 ÷ 6 = 220
Thus, 220 apples are packed in each box.

Life Skills (Page 84)

Number of fields in cooperative farm = 80
Each field yields = 325 kg of rice
Total rice yielded from cooperative farm
= 325 × 80 = 26000 kg
Number of farmers = 75

```
75) 26000 (346
  – 225
    0350
  – 300
     500
  – 450
      50
```

Weight of rice each farmer got = 26000 ÷ 75
⇒ Q = 346 kg and R = 50 kg
Thus, each farmer got 346 kg of rice and 50 kg of rice was given to old-age home.

Challenge Question (Page 84)

1. From the second condition, when the number is divided by 10,
Quotient = 1 and remainder = 5
Since, dividend = quotient × divisor + remainder
So, the number (Dividend) = 1 × 10 + 5 = 15
And the number 15 when divided by 3 gives no remainder.
Thus, the mystery number is 15.

2. (*a*) A number is divisible by 4, if the number formed by last two digit of the given number is divisible by 4.
So, the number formed is 1048, (Answer may vary)

(*b*) When we divide 1048 by 3, we get a remainder 1.

CHAPTER 5 : FACTORS AND MULTIPLES

Let's Recall

2. 18 = 1 × 18 = 2 × 9 = 3 × 6
3. 20 = 1 × 20 = 2 × 10 = 4 × 5
4. 24 = 1 × 24 = 2 × 12 = 3 × 8 = 4 × 6

Think Tank (Page 88)

Multiplication facts of 24
= 1 × 24, 2 × 12, 3 × 8, 4 × 6
Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

Think Tank (Page 89)

Yes, the number is 1.

Think Tank (Page 90)

1. If there was just one boat, 90 people got into it.
2. If there were two boats, 45 people got into each boat.
3. If there were 30 people in a boat, there were 3 boats.
4. If a small boat has a maximum capacity of 12 people, then, 8 such boats would be required keeping as no one should be left behind.

Practice Time 5A

1. (*a*) True (*b*) False
(*c*) False (*d*) False

2. (*a*) $1 \times 12 = 12$; 1 and 12 are the factors of 12.
$2 \times 6 = 12$; 2 and 6 are the factors of 12.
$3 \times 4 = 12$; 3 and 4 are the factors of 12.
Since, there are no pairs of numbers left whose product is 12.
So, 1, 2, 3, 4, 6 and 12 are factors of 12.

(*b*) $1 \times 28 = 28$; 1 and 28 are the factors of 28.
$2 \times 14 = 28$; 2 and 14 are the factors of 28.
$4 \times 7 = 28$; 4 and 7 are the factors of 28.
Since, there are no pairs of numbers left whose product is 28.
So, 1, 2, 4, 7, 14 and 28 are factors of 28.

(*c*) $1 \times 45 = 45$; 1 and 45 are the factors of 45.
$3 \times 15 = 45$; 3 and 15 are the factors of 45.
$5 \times 9 = 45$; 5 and 9 are the factors of 45.
Since, there are no pairs of numbers left whose product is 45.
So, 1, 3, 5, 9, 15 and 45 are factors of 45.

(*d*) and (*e*) — Do it yourself (same as above)

3. (*a*) We divide 24 by all possible counting numbers.
$24 \div 1 = 24$; 1 and 24 are factors of 24.
$24 \div 2 = 12$; 2 and 12 are factors of 24.
$24 \div 3 = 8$; 3 and 8 are factors of 24.
$24 \div 4 = 6$; 4 and 6 are factors of 24.
$24 \div 6 = 4$; 6 and 4 are factors of 24.
$24 \div 8 = 3$; 8 and 3 are factors of 24.
$24 \div 12 = 2$; 12 and 2 are factors of 24.
$24 \div 24 = 1$; 24 and 1 are factors of 24.
Thus, 1, 2, 3, 4, 6, 8, 12 and 24 are factors of 24.

(*b*) $36 \div 1 = 36$
$36 \div 2 = 18$
$36 \div 3 = 12$
$36 \div 4 = 9$
$36 \div 6 = 6$
Thus, the factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36.

(*c*) $54 \div 1 = 54$
$54 \div 2 = 27$
$54 \div 3 = 18$
$54 \div 6 = 9$
Thus, the factors of 54 are 1, 2, 3, 6, 9, 18, 27 and 54.

(*d*) and (*e*) — Do it yourself (same as above)

4. (*a*) Divide 140 by 12.

$$\begin{array}{r} 11 \\ 12\overline{)140} \\ -\,12\downarrow \\ \hline 020 \\ -\;\;12 \\ \hline 08 \end{array}$$

Since, the division of 140 by 12 leaves remainder 8, 12 is not a factor of 140

(*b*) Divide 160 by 10.

$$\begin{array}{r} 16 \\ 10\overline{)160} \\ -\,10\downarrow \\ \hline 060 \\ -\;\;60 \\ \hline 0 \end{array}$$

Since, the division of 160 by 10 leaves no remainder, 10 is a factor of 160.

(*c*) Divide 176 by 8.

$$\begin{array}{r} 22 \\ 8\overline{)176} \\ -\,16\downarrow \\ \hline 16 \\ -\;\;16 \\ \hline 0 \end{array}$$

Since, the division of 176 by 8 leaves no remainder, 8 is a factor of 176.

(*d*) Divide 220 by 15.

$$\begin{array}{r} 14 \\ 15\overline{)220} \\ -\,15\downarrow \\ \hline 70 \\ -\;\;60 \\ \hline 10 \end{array}$$

Since, the division of 220 by 15 leaves remainder 10, 15 is not a factor of 220.

5. (*a*) The factors of 18 are (1), (2), (3), (6), 9 and 18.
The factors of 24 are (1), (2), (3), 4, (6), 8, 12 and 24.
So, the common factors of 18 and 24 are 1, 2, 3 and 6.

(*b*) The factors of 10 are (1), 2, (5) and 10.
The factors of 25 are (1), (5), and 25.
So, the common factors of 10 and 25 are 1 and 5.

(*c*) The factors of 21 are (1), 3, (7) and 21.
The factors of 35 are (1), 5, (7) and 35.
So, the common factors of 21 and 35 are 1 and 7.

(*d*) The factors of 42 are (1), (2), (3), (6), 7, 14, 21 and 42.

The factors of 54 are (1), (2), (3), (6), 9, 18, 27 and 54.

So, the common factors of 42 and 54 are 1, 2, 3 and 6.

(*e*) The factors of 60 are (1), (2), (3), 4, (5), (6), (10), 12, (15), 20, (30) and 60.

The factors of 90 are (1), (2), (3), (5), (6), 9, (10), (15), 18, (30), 45 and 90.

So, the common factors of 60 and 90 are 1, 2, 3, 5, 6, 10, 15 and 30.

(*f*) The factors of 24 are (1), (2), 3, (4), 6, (8), 12 and 24.

The factors of 32 are (1), (2), (4), (8), 16 and 32.

So, the common factors of 24 and 32 are 1, 2, 4, and 8.

(*g*) The factors of 18 are (1), (2), 3, 6, 9 and 18.

The factors of 24 are (1), (2), 3, 4, 6, 8, 12 and 24.

The factors of 32 are (1), (2), 4, 8, 16, and 32.

So, the common factors of 18, 24 and 32 are 1 and 2.

Challenge Question (Page 91)

Factors of 24: 1, 2, 3, 4, 6, 8, 12 and 24

Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18 and 36

Common Factors: 1, 2, 3, 4, 6, and 12.

Pair of numbers, which have only 1 common factor is (4, 5), (3, 8), etc.

These type of pair of numbers are called co-prime numbers.

Think Tank (Page 94)

7, 14 and 28 will form an exact number of weeks.

As $7 \times 1 = 7$; $7 \times 2 = 14$ and $7 \times 4 = 28$.

Practice Time 5B

1. (*a*) $5 \times 1 = 5$, $5 \times 2 = 10$, $5 \times 3 = 15$, $5 \times 4 = 20$, $5 \times 5 = 25$ and $5 \times 6 = 30$.

Thus, the first six multiples of 5 are 5, 10, 15, 20, 25 and 30.

(*b*) $7 \times 1 = 7$, $7 \times 2 = 14$, $7 \times 3 = 21$, $7 \times 4 = 28$, $7 \times 5 = 35$ and $7 \times 6 = 42$.

Thus, the first six multiples of 7 are 7, 14, 21, 28, 35 and 42.

(*c*) $11 \times 1 = 11$, $11 \times 2 = 22$, $11 \times 3 = 33$, $11 \times 4 = 44$, $11 \times 5 = 55$ and $11 \times 6 = 66$.

Thus, the first six multiples of 11 are 11, 22, 33, 44, 55 and 66.

(*d*) $13 \times 1 = 13$, $13 \times 2 = 26$, $13 \times 3 = 39$, $13 \times 4 = 52$, $13 \times 5 = 65$ and $13 \times 6 = 78$.

Thus, the first six multiples of 13 are 13, 26, 39, 52, 65 and 78.

2. (*a*) Since, 9 is an odd number and first five even numbers are 2, 4, 6, 8 and 10.

So, the first five even multiples of 9 are $9 \times 2 = 18$, $9 \times 4 = 36$, $9 \times 6 = 54$, $9 \times 8 = 72$ and $9 \times 10 = 90$.

Thus, the first five even multiples of 9 are 18, 36, 54, 72 and 90.

(*b*) Since, 13 is an odd number and first five even numbers are 2, 4, 6, 8 and 10.

So, the first five even multiples of 13 are $13 \times 2 = 26$, $13 \times 4 = 52$, $13 \times 6 = 78$, $13 \times 8 = 104$ and $13 \times 10 = 130$.

Thus, the first five even multiples of 13 are 26, 52, 78, 104 and 130.

(*c*) Since, 15, is an odd number and first five even numbers are 2, 4, 6, 8 and 10.

So, the first five even multiples of 15 are $15 \times 2 = 30$, $15 \times 4 = 60$, $15 \times 6 = 90$, $15 \times 8 = 120$ and $15 \times 10 = 150$.

Thus, the first five even multiples of 15 are 30, 60, 90, 120 and 150.

(*d*) Since, 25 is an odd number and first five even numbers are 2, 4, 6, 8 and 10.

So, the first five even multiples of 25 are $25 \times 2 = 50$, $25 \times 4 = 100$, $25 \times 6 = 150$, $25 \times 8 = 200$ and $25 \times 10 = 250$.

Thus, the first five even multiples of 25 are 50, 100, 150, 200 and 250.

3. (*a*) The 5th multiple of $8 = 5 \times 8 = 40$

(*b*) The 8th multiple of $9 = 8 \times 9 = 72$

(*c*) Multiples of 12 less than 144 are 12, 24, 36, 48, 60, 72, 84, 96, 108, 120 and 132.

(*d*) Multiples of 3 between 20 and 50 are 21, 24, 27, 30, 33, 36, 39, 42, 45 and 48.

(*e*) Multiples of 9 between 50 and 100 are 54, 63, 72, 81, 90 and 99.

(*f*) The first multiple of 9 exactly divisible by 8 is 72.

4. (*a*) Multiples of 4 = 4, 8, 12, 16, **20**, 24, 28, 32, 36, **40**, 44, 48, 52, 56, **60**, 64, 68, 72, 76, **80**, ...
Multiples of 5 = 5, 10, 15, **20**, 25, 30, 35, **40**, 45, 50, 55, **60**, 65, 70, 75, **80**, ...
Common multiples of 4 and 5 = (20), 40, 60, 80, ...

(*b*) Multiples of 3 = 3, 6, 9, 12, **15**, 18, 21, 24, 27, **30**, 33, 36, 39, 42, **45**, 48, 51, 54, 57, **60**, ...
Multiples of 5 = 5, 10, **15**, 20, 25, **30**, 35, 40, **45**, 50, 55, **60**, 65, 70, 75, ...
Common multiples of 3 and 5 = (15), 30, 45, and 60, ...

(*c*) Multiples of 2 = 2, 4, 6, 8, 10, 12, **14**, 16, 18, 20, 22, 24, 26, **28**, 30, 32, 34, 36, 38, 40, **42**, 44, 46, 48, 50, 52, 54, **56**, ...
Multiples of 7 = 7, **14**, 21, **28**, 35, **42**, 49, **56**, ...
Common multiples of 2 and 7 = (14), 28, 42, 56, ...

(*d*) Multiples of 6 = 6, 12, 18, **24**, 30, 36, 42, **48**, 54, 60, 66, **72**, 78, 84, 90, **96**, ...
Multiples of 8 = 8, 16, **24**, 32, 40, **48**, 56, 64, **72**, 80, 88, **96** ...
Common multiples of 6 and 8 = (24), 48, 72, 96, ...

(*e*) Multiples of 10 = 10, **20**, 30, **40**, 50, **60**, 70, **80**, ...
Multiples of 20 = **20**, **40**, **60**, **80**, 100, 120, ...
Common multiples of 10 and 20 = (20), 40, 60, 80, ...

Practice Time 5C

1. (*a*) True;
Since, 2 + 4 + 3 = 9 divisible by 3 and 9 both

(*b*) False;
For example, 45 is divisible by 5, but not by 10.

(*c*) True;
Since a number is divisible by 6, if it is divisible by 2 and 3 both.

(*d*) True;
Since a number is divisible by 9, then it must be divisible by 3.

2.

	Divisible by						
	Numbers	2	3	4	5	9	10
(*a*)	62	yes	no	no	no	no	no
(*b*)	96	yes	yes	yes	no	no	no
(*c*)	284	yes	no	yes	no	no	no
(*d*)	251	no	no	no	no	no	no
(*e*)	1024	yes	no	yes	no	no	no
(*f*)	6318	yes	yes	no	no	yes	no

Think Tank (Page 99)

1. Prime numbers less than 25 = 2, 3, 5, 7, 11, 13, 17, 19 and 23.

2. Composite numbers less than 30 = 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27 and 28.

Practice Time 5D

1. (*a*) 15; Composite number ($\because 15 = 3 \times 5$)
(*b*) 21; Composite number ($\because 21 = 3 \times 7$)
(*c*) 23; Prime number ($\because 23 = 1 \times 23$)
(*d*) 33; Composite number ($\because 33 = 3 \times 11$)
(*e*) 46; Composite number ($\because 46 = 2 \times 23$)
(*f*) 49; Composite number ($\because 49 = 7 \times 7$)

2. (*a*) Prime numbers between 10 and 30 = 11, 13, 17, 19, 23 and 29.

(*b*) Prime numbers between 50 and 60 = 53 and 59.

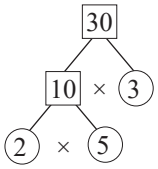
(*c*) Prime numbers between 80 and 90 = 83 and 89.

3. (*a*) Composite numbers between 1 and 10 = 4, 6, 8, 9 (4 numbers).

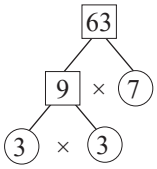
(*b*) Composite numbers between 20 and 30 = 21, 22, 24, 25, 26, 27, 28 (7 numbers).

(*c*) Composite numbers between 70 and 80 = 72, 74, 75, 76, 77, 78 (6 numbers).

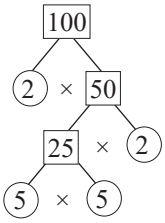
4. (*a*)



(*b*)



(*c*)



5. (*a*)

3	75
5	25
	5

(*b*)

2	108
2	54
3	27
3	9
	3

(*c*)

5	625
5	125
5	25
	5

6. (*a*) $18 = 2 \times 3 \times 3$

2	18
3	9
3	3
	1

(*b*) $20 = 2 \times 2 \times 5$

2	20
2	10
5	5
	1

(*c*) $32 = 2 \times 2 \times 2 \times 2 \times 2$

2	32
2	16
2	8
2	4
2	2
	1

(*d*) $42 = 2 \times 3 \times 7$

2	42
3	21
7	7
	1

(*e*) $60 = 2 \times 2 \times 3 \times 5$

2	60
2	30
3	15
5	5
	1

(*f*) $81 = 3 \times 3 \times 3 \times 3$

3	81
3	27
3	9
3	3
	1

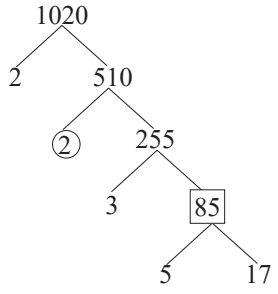
Challenge Question (Page 102)

1. A number is divisible by 9, if the sum of its digits is divisible by 9.
First three digit of the passcode is 241, 2 + 4 + 1 = 7
So, the last digit of the passcode must be 9 – 7 = 2
Thus, the passcode is 2412.

2. In a leap year, the months have a prime number of days are: January (31), February (29), March (31), May (31), July (31), August (31), October (31) and December (31), *i.e.*, 8.

Chapter Assessment

1. (*a*) (*iii*) Both Riya and Siya are correct.
($\because$ 90 = 15 × 6)
(*b*) (*ii*) 8, 16, 24, 32, 40, are all multiples of 8.
(*c*) (*iii*) $a = 2, b = 85$



(*d*) (*i*) 3630 is not divisible by 9.

2. (*a*) False;
Since, 1 × 5 = 5 is a prime number.

(*b*) False;
For example, 15 is an odd number, but not a prime number.

(*c*) False;
Multiples of a number cannot be counted whereas factors of a number can be counted.

(*d*) True;
For example, 10 or 15 both have 5 as their factor and the numbers are also multiple of 5.

(*e*) False;
Every counting number (except 1) are either prime or composite.

(*f*) True;
2 is the only even prime number.

3. (*a*) The smallest multiple of 2 greater than 28 is 30.

(*b*) A multiple of 2 but not of 3, lesser than 12 but greater than 8, is 10.

(*c*) A multiple of 5, 6 and 10, greater than 40 but less than 80, is 60.

(*d*) A multiple of 5 and 2 which is 2 more than the third multiple of 6, is 20.

(*e*) A multiple of 3 but not of 6 and 9, greater than 22 but less than 37, is 33.

4. (*a*) Thirteenth multiple of 2 = 2 × 13 = 26.

(*b*) The greatest 2-digit multiple of 3 = 99.

(*c*) Greatest factor of the greatest 5-digit number = 99999

(*d*) Smallest multiple of the greatest 5-digit number = 99999

5. 1, 2, 4, 5, 8, 10, 25, 40, 125

6. First 3 multiples of 9 are: 9, 18, 27 and sum = 9 + 18 + 27 = 54. And 54 = 6 × 9
Thus, 6th multiple of 9 is equal to the sum of its first 3 multiples.

7. 4 pairs (13 and 31, 17 and 71, 37 and 73, 79 and 97)

8. 312, 402, 444, 612.
House number 312, 402, 444, and 612 are divisible by 6, so by 3 also.

Life Skills (Page 104)

1. Room numbers that are multiple of 3 and 5, *i.e.*, 15 are: 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180, 195.

2. 6, 12, 18, 24, 30; Since, Vishal work daily, Simran work alternate day, *i.e.*, every 2nd day and Shelly work on every 3rd day, so we have to find the date, which are common multiples of 1, 2 and 3, *i.e.*, 6.

Mental Maths (Page 105)

1. (*a*) Every number is a multiple of 1.

2. (*c*) Every number other than 1 has at least 2 factors.

3. (*c*) Smallest 2-digit number = 10

$10 - 2 = 8$ is a multiple of 2.

4. (*a*) Odd factors of 30 are 1, 3, 5 and 15 (4 factors).

CHAPTER 6 : FRACTIONS

Let's Recall

1. (*a*)

2. (*a*) $\frac{3}{9}$ (*b*) $\frac{4}{9}$

(*c*) $\frac{3}{9}$ (*d*) $\frac{4}{9}$

3. (*a*) Numerator = 2, Denominator = 5

(*b*) Numerator = 3, Denominator = 7

(*c*) Numerator = 4, Denominator = 9

(*d*) Numerator = 5, Denominator = 10

4. (*a*) $\frac{1}{3}$ of 15 apples = $\frac{1}{3} \times 15 = 5$ apples

(*b*) $\frac{2}{3}$ of 21 pencils = $\frac{2}{3} \times 21 = 14$ pencils

(*c*) $\frac{3}{4}$ of 20 stamps = $\frac{3}{4} \times 20 = 15$ stamps

Fast Check (Page 108)

1. $\frac{2}{9}, \frac{3}{9}, \frac{8}{9}$ are like fractions $\frac{7}{8}$ is unlike fractions.

Hence, odd one out is $\frac{7}{8}$.

2. $\frac{1}{12}, \frac{11}{12}$ and $\frac{13}{12}$ are like fractions.

$\frac{5}{11}$ is unlike fraction.

Hence, $\frac{5}{11}$ is odd one out.

Practice Time 6A

1. (*a*), (*b*) and (*e*) are like fractions because denominators are same.

2. (*a*), (*c*), (*d*) and (*e*) are unlike fractions because denominators are different.

3. (*a*) $\frac{3}{7} = \frac{\boxed{6}}{14}$ $\left(\because \frac{3}{7} = \frac{3\times2}{7\times2} = \frac{6}{14}\right)$

(*b*) $\frac{2}{5} = \frac{\boxed{6}}{15}$ $\left(\because \frac{2}{5} = \frac{2\times3}{5\times3} = \frac{6}{15}\right)$

(*c*) $\frac{16}{28} = \frac{\boxed{4}}{7}$ $\left(\frac{16}{28} = \frac{16\div4}{28\div4} = \frac{4}{7}\right)$

(*d*) $\frac{7}{35} = \frac{\boxed{1}}{5}$ $\left(\because \frac{7}{35} = \frac{7\div7}{35\div7} = \frac{1}{5}\right)$

4. (*a*) $\frac{2}{3} = \frac{6}{\boxed{9}}$ $\left(\because \frac{2}{3} = \frac{2\times3}{3\times3} = \frac{6}{9}\right)$

(*b*) $\frac{7}{9} = \frac{14}{\boxed{18}}$ $\left(\because \frac{7}{9} = \frac{7\times2}{9\times2} = \frac{14}{7}\right)$

(*c*) $\frac{15}{35} = \frac{3}{\boxed{7}}$ $\left(\because \frac{15}{35} = \frac{15\div5}{35\div5} = \frac{3}{7}\right)$

(*d*) $\frac{16}{36} = \frac{4}{\boxed{9}}$ $\left(\because \frac{16}{36} = \frac{16\div4}{36\div4} = \frac{4}{9}\right)$

5. (*a*) $\frac{2}{5} = \frac{\boxed{8}}{20}$ $\left(\because \frac{2}{5} = \frac{2\times4}{5\times4} = \frac{8}{20}\right)$

(*b*) $\frac{3}{9} = \frac{18}{\boxed{54}}$ $\left(\because \frac{3}{9} = \frac{3\times6}{9\times6} = \frac{18}{54}\right)$

(*c*) $\frac{5}{9} = \frac{\boxed{45}}{81}$ $\left(\because \frac{5}{9} = \frac{5\times9}{9\times9} = \frac{45}{81}\right)$

(*d*) $\frac{4}{7} = \frac{24}{\boxed{42}}$ $\left(\because \frac{4}{7} = \frac{4\times6}{7\times6} = \frac{24}{42}\right)$

6. (*a*) $\frac{5}{7} = \frac{5\times2}{7\times2} = \frac{10}{14}$; $\frac{5}{7} = \frac{5\times3}{7\times3} = \frac{15}{21}$;

$\frac{5}{7} = \frac{5\times4}{7\times4} = \frac{20}{28}$; $\frac{5}{7} = \frac{5\times5}{7\times5} = \frac{25}{35}$ and

$\frac{5}{7} = \frac{5\times6}{7\times6} = \frac{30}{42}$.

So, the five equivalent fractions of $\frac{5}{7}$ are $\frac{10}{14}, \frac{15}{21}, \frac{20}{28}, \frac{25}{35}$ and $\frac{30}{42}$.

(*b*) $\frac{3}{4} = \frac{3\times2}{4\times2} = \frac{6}{8}$; $\frac{3}{4} = \frac{3\times3}{4\times3} = \frac{9}{12}$;

$\frac{3}{4} = \frac{3\times4}{4\times4} = \frac{12}{16}$; $\frac{3}{4} = \frac{3\times5}{4\times5} = \frac{15}{20}$ and $\frac{3}{4} = \frac{3\times6}{4\times6} = \frac{18}{24}$.

So, the five equivalent fractions of $\frac{3}{4}$ are $\frac{6}{8}$, $\frac{9}{12}$, $\frac{12}{16}$, $\frac{15}{20}$ and $\frac{18}{24}$.

(*c*) $\frac{5}{8} = \frac{5\times2}{8\times2} = \frac{10}{16}$; $\frac{5}{8} = \frac{5\times3}{8\times3} = \frac{15}{24}$; $\frac{5}{8} = \frac{5\times4}{8\times4} = \frac{20}{32}$; $\frac{5}{8} = \frac{5\times5}{8\times5} = \frac{25}{40}$ and $\frac{5}{8} = \frac{5\times6}{8\times6} = \frac{30}{48}$.

So, the five equivalent fractions of $\frac{5}{8}$ are $\frac{10}{16}$, $\frac{15}{24}$, $\frac{20}{32}$, $\frac{25}{40}$ and $\frac{30}{48}$.

(*d*) and (e) same as above parts.

7. (*a*) $\frac{5}{11}$  $\frac{10}{22}$

Here, $5 \times 22 = 110$ and $11 \times 10 = 110$.

i.e., both the products are equal.

Hence, $\frac{5}{11}$ and $\frac{10}{22}$ are equivalent fractions.

(*b*) $\frac{8}{12}$  $\frac{16}{21}$

Here, $8 \times 21 = 168$ and $12 \times 16 = 192$.

i.e., both the products are different.

Hence, $\frac{8}{12}$ and $\frac{16}{21}$ are not equivalent fractions.

(*c*) $\frac{3}{8}$  $\frac{18}{48}$

Here, $3 \times 48 = 144$ and $8 \times 18 = 144$.

i.e., both the products are equal.

Hence, $\frac{3}{8}$ and $\frac{18}{48}$ are equivalent fractions.

(*d*) $\frac{9}{10}$  $\frac{27}{40}$

Here, $9 \times 40 = 360$ and $27 \times 10 = 270$.

i.e., both the products are different.

Hence, $\frac{9}{10}$ and $\frac{27}{40}$ are not equivalent fractions.

(*e*) $\frac{4}{5}$  $\frac{36}{45}$

Here, $4 \times 45 = 180$ and $5 \times 36 = 180$.

i.e., both the products are equal.

Hence, $\frac{4}{5}$ and $\frac{36}{45}$ are equivalent fractions.

Think Tank (Page 111)

1. False. As 2 pieces of $\frac{1}{6} = 2\times\frac{1}{6} = \frac{1}{3} \neq \text{Half}\left(\frac{1}{2}\right)$

2. False. As $\frac{4\times2}{5\times2} = \frac{8}{10}$, both read same number of pages.

Practice Time 6B

1. (*a*) $\frac{3}{15}$ Factors of numerator 3 are = 1 and 3.

Factors of denominator 15 are 1, 3, 5 and 15.

Here, common factors of 3 and 15 are 1 and 3.

Thus, $\frac{3}{15}$ is not in its simplest form.

(*b*) $\frac{9}{13}$

Factors of numerator 9 are 1, 3 and 9.

Factors of denominator 13 are 1 and 13.

Here, common factors of 9 and 13 is 1.

Thus, $\frac{9}{13}$ is in its simplest form.

(*c*) $\frac{12}{18}$

Factors of numerator 12 = 1, 2, 3, 4, 6 and 12.

Factors of denominator 18 = 1, 2, 3, 6, 9, 18.

Here, common factors of 12 and 18 are 1, 2, 3 and 6.

Thus, $\frac{12}{18}$ is not in its simplest form.

(*d*) $\frac{17}{21}$

Factors of numerator 17 = 1 and 17.

Factors of denominator 21 = 1, 3, 7, 21.

Here, common factors of 17 and 21 is 1.

Thus, $\frac{17}{21}$ is in its simplest form.

(*e*) $\frac{12}{19}$

Factors of numerator 12 = 1, 2, 3, 4, 6 and 12.

Factors of denominator 19 = 1 and 19.
Here, common factors of 12 and 19 is 1.
Thus, $\frac{12}{19}$ is in its simplest form.

(*f*) $\frac{15}{24}$

Factors of numerator 15 = 1, 3, 5 and 15.
Factors of denominator 24 = 1, 2, 3, 4, 6, 8, 12 and 24.
Here, common factors of 15 and 24 are 1 and 3.
Thus, $\frac{15}{24}$ is not in its simplest form.

(*g*) to (*j*) — Same as above.

2. (*a*) $\frac{14 \div 7}{21 \div \boxed{7}} = \frac{\boxed{2}}{3}$ (*b*) $\frac{10 \div \boxed{2}}{18 \div 2} = \frac{\boxed{5}}{\boxed{9}}$

(*c*) $\frac{15 \div 5}{35 \div \boxed{5}} = \frac{\boxed{3}}{\boxed{7}}$

3. (*a*) $\frac{19}{38} = \frac{19 \div 19}{38 \div 19} = \frac{1}{2}$

Thus, $\frac{1}{2}$ is the simplest form of $\frac{19}{38}$.

(*b*) $\frac{10}{20} = \frac{\cancel{2} \times \cancel{5}}{\cancel{2} \times 2 \times \cancel{5}} = \frac{1}{2}$

Thus, $\frac{1}{2}$ is the simplest form of $\frac{10}{20}$.

(*c*) $\frac{16}{80} = \frac{\cancel{4} \times \cancel{4}}{\cancel{4} \times \cancel{4} \times 5} = \frac{1}{5}$

Thus, $\frac{1}{5}$ is the simplest form of $\frac{16}{80}$.

(*d*) $\frac{30}{90} = \frac{\cancel{3} \times \cancel{10}}{\cancel{3} \times 3 \times \cancel{10}} = \frac{1}{3}$

Thus, $\frac{1}{3}$ is the simplest form of $\frac{30}{90}$.

(*e*) $\frac{64}{96} = \frac{\cancel{4} \times \cancel{4} \times \cancel{2} \times 2}{\cancel{4} \times \cancel{4} \times \cancel{2} \times 3} = \frac{2}{3}$

Thus, $\frac{2}{3}$ is the simplest form of $\frac{64}{96}$.

(*f*) $\frac{9}{12} = \frac{\cancel{3} \times 3}{\cancel{3} \times 4} = \frac{3}{4}$

(*g*) to (*j*)—Same as above.

Practice Time 6C

1. Proper fractions = (*a*), (*b*), (*d*) and (*e*).

2. Improper fractions = (*b*) and (*e*)

3. Unit fractions = (*b*), (*d*) and (*f*)

4. (*a*) Divide numerator 9 by the denominator 5.

$\frac{9}{5} = 9 \div 5$

Thus, $\frac{9}{5} = 1\frac{4}{5}$.

$5\overline{)9\,(1}$ ← Whole part
$-\,5$ ← Denominator
4 ← Numerator (new)

(*b*) Divide numerator 12 by the denominator 7.

$\frac{12}{7} = 12 \div 7$

Thus, $\frac{12}{7} = 1\frac{5}{7}$.

$7\overline{)12\,(1}$ ← Whole part
$-\,7$ ← Denominator
5 ← Numerator (new)

(*c*) Divide numerator 19 by the denominator 15.

$\frac{19}{15} = 19 \div 15$

Thus, $\frac{19}{15} = 1\frac{4}{15}$.

$15\overline{)19\,(1}$ ← Whole part
$-\,15$ ← Denominator
04 ← Numerator (new)

(*d*) Divide numerator 30 by the denominator 12.

$\frac{30}{12} = 30 \div 12$

Thus, $\frac{30}{12} = 2\frac{6}{12}$ or $2\frac{1}{2}$

$12\overline{)30\,(2}$ ← Whole part
$-\,24$ ← Denominator
06 ← Numerator (new)

(*e*) Divide numerator 20 by the denominator 13.

$\frac{20}{13} = 20 \div 13$

Thus, $\frac{20}{13} = 1\frac{7}{13}$

$13\overline{)20\,(1}$ ← Whole part
$-\,13$ ← Denominator
07 ← Numerator (new)

(*f*) Divide numerator 24 by the denominator 5.

$\frac{24}{5} = 24 \div 5$

Thus, $\frac{24}{5} = 4\frac{4}{5}$.

$5\overline{)24\,(4}$ ← Whole part
$-\,20$ ← Denominator
04 ← Numerator (new)

5. (*a*) $8\frac{1}{2} = \frac{8 \times 2 + 1}{2} = \frac{16 + 1}{2} = \frac{17}{2}$

(*b*) $7\frac{1}{3} = \frac{7 \times 3 + 1}{3} = \frac{21 + 1}{3} = \frac{22}{3}$

(*c*) $10\frac{2}{3} = \frac{10\times3+2}{3} = \frac{30+2}{3} = \frac{32}{3}$

(*d*) $4\frac{1}{4} = \frac{4\times4+1}{4} = \frac{16+1}{7} = \frac{17}{4}$

(*e*) $5\frac{1}{5} = \frac{5\times5+1}{5} = \frac{25+1}{5} = \frac{26}{5}$

(*f*) $9\frac{1}{7} = \frac{9\times7+1}{7} = \frac{63+1}{7} = \frac{64}{7}$

6. (*a*) $3\frac{3}{5} = \frac{3\times5+3}{5} = \frac{15+3}{5} = \boxed{\frac{18}{5}}$

(*b*) $4\frac{4}{7} = \frac{4\times7+4}{7} = \frac{32}{\boxed{7}}$

(*c*) $8\frac{\boxed{2}}{3} = \frac{26}{3}$

(*d*) $4\frac{5}{6} = \frac{4\times6+5}{6} = \frac{24+5}{6} = \boxed{\frac{29}{6}}$

Practice Time 6D

1. (*a*) Here, the denominators of the given fractions are same. So, comparing numerators 3 and 1, we have $3 > 1$.

Thus, $\frac{3}{4} > \frac{1}{4}$.

(*b*) Here, the denominators of the given fractions are same. So, comparing numerators 4 and 8, we have $4 < 8$.

Thus, $\frac{4}{9} < \frac{8}{9}$.

(*c*) Here, the denominators of the given fractions are same. So, comparing numerators 10 and 8, we have $10 > 8$.

Thus, $\frac{10}{15} > \frac{8}{15}$.

(*d*) Here, the numerators are same and we know that in unlike fractions with same numerators, the fraction with greater denominator will be smaller.

Thus, $\frac{3}{15} < \frac{3}{8}$.

(*e*) Comparing the numerators 3 and 5, we have $5 > 3$.

So, $\frac{3}{8} < \frac{5}{8}$.

(*f*) and (*h*) same as part (*e*).

(*g*), (*i*) and (*j*) same as part (*d*).

2. (*a*) Here, the denominators of the given fractions are same. So, comparing numerators 4 and 1, we have $4 > 1$. Thus, $\frac{4}{5}$ is greater.

(*b*) Here, the denominators of the given fractions are same. So, comparing numerators 9 and 7, we have $9 > 7$. Thus, $\frac{9}{13}$ is greater.

(*c*) $\frac{3}{9} = \frac{\cancel{3}}{\cancel{3}\times3} = \frac{1}{3}$ and $\frac{\cancel{8}^{4}}{\cancel{2}} = 4$

Clearly, $\frac{1}{3} < 4$. So, $\frac{8}{2}$ is greater.

(*d*) Here, the denominators of the given fractions are same. So, comparing numerators 3 and 2, we have $3 > 2$. Thus, $\frac{3}{4}$ is greater.

(*e*) Here the numerators are same.

So, comparing denominators 11 and 13, we have $11 < 13$. Thus, $\frac{8}{11}$ is greater.

3. (*a*) Since, the denominators are same. Therefore, comparing numerators: $2 < 4 < 5 < 7$

So, the fractions in ascending order are:

$\frac{2}{8} < \frac{4}{8} < \frac{5}{8} < \frac{7}{8}$.

(*b*) Since, $1 < 2 < 5 < 6$

So, the fractions in ascending order are:

$\frac{1}{9} < \frac{2}{9} < \frac{5}{9} < \frac{6}{9}$.

(*c*) Since, the numerators of the given fractions are same, so, the fraction with smaller denominator will be the greater fraction. $7 < 8 < 12 < 13$.

Thus, the fractions in ascending order are:

$\frac{6}{13} < \frac{6}{12} < \frac{6}{8} < \frac{6}{7}$.

(*d*) Since, the numerators of the given fractions is same, so, the fraction with smaller denominator will be the bigger fraction. $2 < 3 < 7 < 9$.

Thus, the fractions in ascending order are

$\frac{1}{9} < \frac{1}{7} < \frac{1}{3} < \frac{1}{2}$.

4. (*a*) Since, the numerators of the given fractions is same, so, the fraction with greater denominator will be the smaller fraction.

Comparing denominators of the given fractions, $13 > 12 > 9 > 8$.

Thus, the fractions in descending order are:

$\frac{7}{8} > \frac{7}{9} > \frac{7}{12} > \frac{7}{13}$.

(*b*) Since, the denominators of the given fractions are same.

So, comparing numerators: $4 > 3 > 2 > 1$

Thus, the fractions in descending order are:

$\frac{4}{9} > \frac{3}{9} > \frac{2}{9} > \frac{1}{9}$.

(*c*) Same as part (*b*).

(*d*) Same as part (*a*).

Practice Time 6E

1. (*a*) $\frac{9}{4} + \frac{8}{4} = \frac{9+8}{4} = \frac{17}{4} = 4\frac{1}{4}$

(*b*) $\frac{5}{9} + \frac{8}{9} = \frac{5+8}{9} = \frac{13}{9} = 1\frac{4}{9}$

(*c*) $\frac{5}{12} + \frac{7}{12} = \frac{5+7}{12} = \frac{12}{12} = 1$

(*d*) $\frac{4}{7} + \frac{5}{7} + \frac{2}{7} = \frac{4+5+2}{7} = \frac{11}{7} = 1\frac{4}{7}$

(*e*) $\frac{8}{11} + \frac{24}{11} + \frac{15}{11} = \frac{8+24+15}{11} = \frac{47}{11} = 4\frac{3}{11}$

(*f*) $1\frac{1}{6} + \frac{1}{6} = \frac{7}{6} + \frac{1}{6} = \frac{7+1}{6} = \frac{\cancel{8}^{4}}{\cancel{6}_{3}} = \frac{4}{3} = 1\frac{1}{3}$

(*g*) $2\frac{4}{5} + \frac{2}{5} = \frac{2\times5+4}{5} + \frac{2}{5} = \frac{14}{5} + \frac{2}{5} = \frac{16}{5} = 3\frac{1}{5}$

(*h*) $2\frac{1}{9} + 1\frac{1}{9} = \frac{2\times9+1}{9} + \frac{1\times9+1}{9}$

$= \frac{19}{9} + \frac{10}{9} = \frac{19+10}{9} = \frac{29}{9} = 3\frac{2}{9}$

2. (*a*) $\frac{10}{11} - \frac{7}{11} = \frac{10-7}{11} = \frac{3}{11}$

(*b*) $\frac{9}{13} - \frac{9}{13} = \frac{9-9}{13} = \frac{0}{13} = 0$

(*c*) $\frac{5}{16} - \frac{3}{16} = \frac{5-3}{16} = \frac{2}{16} = \frac{1}{8}$

(*d*) $\frac{9}{17} - \frac{7}{17} = \frac{9-7}{17} = \frac{2}{17}$

(*e*) $6\frac{3}{4} - 2\frac{1}{4} = \frac{27}{4} - \frac{9}{4} = \frac{27-9}{4} = \frac{18}{4} = \frac{9}{2} = 4\frac{1}{2}$

(*f*) $4\frac{1}{12} - 3\frac{1}{12} = \frac{49}{12} - \frac{37}{12} = \frac{49-37}{12} = \frac{12}{12} = 1$

(*g*) $5\frac{7}{16} - 4\frac{1}{16} = \frac{87}{16} - \frac{65}{16} = \frac{87-65}{16}$

$= \frac{22}{16} = \frac{11}{8} = 1\frac{3}{8}$

(*h*) $13\frac{3}{17} - 11\frac{2}{17} = \frac{224}{17} - \frac{189}{17}$

$= \frac{224-189}{17} = \frac{35}{17} = 2\frac{1}{17}$

3. (*a*) Distance covered by Ram by bus = $\frac{5}{6}$ km.

Distance covered by him on foot = $\frac{1}{6}$ km.

Total distance covered by Ram to reach the school = $\frac{5}{6} + \frac{1}{6} = \frac{5+1}{6} = \frac{6}{6} = 1$ km.

Thus, Ram covered a distance of 1 km to reach the school.

(*b*) Cost of a pencil = ₹$4\frac{1}{2}$.

Cost of crayons packet = ₹$32\frac{1}{2}$.

Total cost of both the items = ₹$4\frac{1}{2}$ + ₹$32\frac{1}{2}$

$= \frac{9}{2} + \frac{65}{2} = \frac{9+65}{2} = \frac{74}{2}$ = ₹37

Thus, the total cost of both the items is ₹37.

(*c*) Time spent reading a book = $\frac{3}{5}$ hour.

Time spent playing = $\frac{2}{5}$ hour.

Since, the denominators of both fractions are same.

Then, clearly $3 > 2$. So $\frac{3}{5} > \frac{2}{5}$.

Difference of time spent on reading and playing

$= \frac{3}{5} - \frac{2}{5} = \frac{3-2}{5} = \frac{1}{5}$ hour.

Thus, Siya spent more time reading by $\frac{1}{5}$ hour.

(*d*) Distance covered by Vivan $= 2\frac{5}{8} = \frac{21}{8}$ km

Distance covered by Ridhima $= 3\frac{2}{8} = \frac{26}{8}$ km

Since the denominators are same, so $\frac{26}{8} > \frac{21}{8}$.

Ridhima covered more distance than Vivan.

Difference in distance walked by Ridhima and Vivan

$= \frac{26}{8} - \frac{21}{8} = \frac{26-21}{8} = \frac{5}{8}$ km.

Thus, Ridhima walked longer by $\frac{5}{8}$ km.

Think Tank (Page 121)

Let one fraction smaller than $\frac{1}{2}$ is $\frac{1}{4}$,

Then the other fraction $= 1 - \frac{1}{4} = \frac{3}{4}$

Such that $\frac{1}{4} + \frac{3}{4} = \frac{4}{4} = 1$ (Answer may vary)

Mental Maths (Page 122)

1. (*c*) Total number of caps in a bag = 72.

Number of white caps = 18.

Number of red caps = 72 – 18 = 54 caps.

Fraction of red caps in the bag $= \frac{54}{72}$.

$= \frac{54 \div 18}{72 \div 18} = \frac{3}{4}$.

2. (*b*) $\frac{9}{8}$ is an improper fraction.

3. (*d*) $\frac{1}{4}$ is not equivalent to $\frac{4}{24}$.

4. (*a*) $\frac{1}{3}$ is the simplest form of $\frac{6}{18}$.

Chapter Assessment

1. (*a*) – (*iv*) $\frac{9}{12}$ is equivalent to $\frac{3}{4}$.

(*b*) – (*iii*) Since, the numerator is same, so the fraction with the greater denominator will be smaller fraction.

Therefore, $\frac{1}{5}$ is the smallest fraction.

(*c*) – (*i*) $\frac{2}{7}$ of $154 = \frac{2}{7} \times 154 = 2 \times 22 = 44$

(*d*) – (*iii*) $5\frac{3}{7} = \frac{38}{7} = 5.42$

Thus, its value lies between 5 and 6

(*e*) – (*iii*) The numerator is same as denominator.

(*f*) – (*ii*) Time spent by the students to attend the class $= 5\frac{2}{5}$ hours.

Time spent by the students in playing $= 1\frac{1}{5}$ hours.

Total time spent by the students

$= 5\frac{2}{5} + 1\frac{1}{5}$

$= \frac{27}{5} + \frac{6}{5} = \frac{33}{5}$ hours $= 6\frac{3}{5}$ hours.

2. (*a*) – (*v*) $\left(\because \frac{8}{16} = \frac{1}{2}\right)$ (*b*) – (*iv*) $\left(\because \frac{25}{45} = \frac{5}{9}\right)$

(*c*) – (*i*) $\left(\because \frac{18}{20} = \frac{9}{10}\right)$ (*d*) – (*ii*) $\left(\because \frac{160}{170} = \frac{16}{17}\right)$

(*e*) – (*iii*) $\left(\because \frac{2}{50} = \frac{1}{25}\right)$

3. (*a*) $\frac{5}{2} > \frac{3}{2}$ (*b*) $\frac{4}{3} = \frac{4}{3}$

(*c*) $\frac{15}{3} > \frac{11}{3}$ (*d*) $\frac{7}{5} < \frac{23}{5}$

4. (*a*) $\frac{5}{8} + \frac{1}{8} = \frac{5+1}{8} = \frac{6}{8} = \frac{3}{4}$.

(*b*) $\frac{9}{11} - \frac{5}{11} = \frac{9-5}{11} = \frac{4}{11}$

(*c*) $1\frac{5}{6} - \frac{4}{6} = \frac{11}{6} - \frac{4}{6} = \frac{11-4}{6} = \frac{7}{6} = 1\frac{1}{6}$

(*d*) $2\frac{1}{3} + \frac{2}{3} = \frac{7}{3} + \frac{2}{3} = \frac{7+2}{3} = \frac{9}{3} = 3$

5. Quantity of milk drunk by Maya $= \frac{3}{2}$ glasses.

Quantity of milk drunk by Sonia $= 1\frac{1}{2} = \frac{3}{2}$ glasses.

Thus, both of them drank same amount of milk.

6. Part of salary spent by Mrs. Gupta for day to day expenses = $\frac{2}{5}$.

Part of salary spent for shopping and entertainment = $\frac{1}{5}$.

Total part of salary spent in that particular month

$= \frac{2}{5} + \frac{1}{5} = \frac{3}{5}$

Thus, $\frac{3}{5}$ part of a salary spent in that particular month.

7. Part of a chocolate bar Seema had = $\frac{1}{4}$

Part of a chocolate bar given by her friend = $\frac{1}{4}$

Total part of a chocolate bar

$= \frac{1}{4} + \frac{1}{4} = \frac{1+1}{4} = \frac{2}{4} = \frac{1}{2}$

Thus, Seema has $\frac{1}{2}$ of chocolate bar now.

8. Part of cake eaten by mother = $\frac{2}{8}$.

Part of cake eaten by father = $\frac{4}{8}$.

Total part eaten by both of them

$= \frac{2}{8} + \frac{4}{8} = \frac{2+4}{8} = \frac{6}{8}$ or $\frac{3}{4}$

Thus, $\frac{3}{4}$ part of cake has been eaten.

9. A painter painted $\frac{1}{5}$ part of a wall on 1st day.

and $\frac{3}{5}$ parts on 2nd day.

Fraction of the wall painted in two days

$= \frac{1}{5} + \frac{3}{5} = \frac{1+3}{5} = \frac{4}{5}$

Thus, $\frac{4}{5}$ parts of a wall is painted in two days.

10. Distance covered by Anuj after dinner = $1\frac{1}{2}$ km

$= \frac{3}{2}$ km.

Distance covered by Shailja

$= 2\frac{4}{8} = \frac{20}{8} = \frac{20 \div 4}{8 \div 4} = \frac{5}{2}$ km.

Difference in distance covered = $\frac{5}{2} - \frac{3}{2} = \frac{2}{2} = 1$ km.

Thus, Shailja walked 1 km more than Anuj. It is advised to walk after dinner because it is good for health.

Challenge Question (Page 125)

Part of cake Ayaan ate = $\frac{4}{6}$

Part of cake Mira ate = $\frac{10}{8} = 1\frac{2}{8}$

Part of cake Zoya ate = $\frac{5}{4} = 1\frac{1}{4}$

Part of cake Kabir ate = $\frac{3}{3} = 1$

1. Mira and Zoya. **2.** Ayaan

3. Yes, Kabir.

MODEL TEST PAPER - 1

A.

1. (*a*) 6 thousands less than 29,485
= 29,485 – 6000 = 23,485.

2. (*c*) Product of 3000 × 140 = 4,20,000.

3. (*a*) Annual salary of Rehana = ₹1,20,000

Monthly salary of Rehana = ₹$\frac{120000}{12}$ = ₹10,000

Hence, monthly salary of Rehana is ₹10,000.

4. (*c*) When two or more numbers are multiplied together the result is called product.

5. (*b*) All the factors of 12 are 1, 2, 3, 4, 6, 12.

6. (*c*) If the digit at its ones place is 0 or 5, then the number is divisible by 5.

7. (*c*) 18001 + 1999 = 20,000
Successor of 20,000 = 20,000 + 1 = 20,001

8. (*a*) Painter painted of a wall on Ist day = $\frac{2}{5}$

Painter painted of a wall on end day = $\frac{1}{5}$.

Painter painted of a wall in both days

$= \frac{2}{5} + \frac{1}{5} = \frac{2+1}{5} = \frac{3}{5}$

9. (*a*) The value of an improper fraction is more than 1, *i.e.*, the numerator is greater than the denominator.

10. (*b*) 4, 56, 23, 2

B.

1. 4, 13, 632 = 4,00,000 + 10,000 + 3,000 + 600 + 30 + 2.

2. The number 3000 more than 97,000 = 97,000 + 3,000 = 1,00,000.

3. (15 × 14) × 13 = 15 × (14 × 13).

4. Dividend is exactly divisible by the division if the remainder is zero.

5. 6 is the smallest common multiple of 1, 2, 3 and 6.

6. $\frac{4}{7}+\frac{3}{7}=\frac{4+3}{7}=\frac{7}{7}=1$

C.

1. Number of sea shells collected by Ranjana = 224

Number of sea shells required to make a necklace = 32

Number of necklace can she make = 224 ÷ 32 = 7

$$\begin{array}{r} 7 \\ 32\overline{)224} \\ -224 \\ \hline 0 \end{array}$$

Thus, 7 necklaces she can make.

2. Amit gave one-tenth of chocolate to each of his 5 friends.

$=\frac{1}{10}\times 5=\frac{5}{10}=\frac{1}{2}$

So, the portion left with him = $1-\frac{1}{2}=\frac{1}{2}$.

3. Number of men = 4,65,234

Number of women = 4,60,556

Number of children = 2,78,954

Total population of the city

= 4,65,234 + 4,60,556 + 2,78,954 = 12,04,744

	②	①	①	①	①	
	4	6	5	2	3	4
	4	6	0	5	5	6
+	2	7	8	9	5	4
1	2	0	4	7	4	4

Population of the city to the nearest hundred is 12,04,700

4. Number of chairs arranged equally in 80 rows = 3657

Number of chairs in each row = 3657 ÷ 80

$$\begin{array}{r} 45 \\ 80\overline{)3657} \\ -320 \\ \hline 457 \\ -400 \\ \hline 057 \end{array}$$

Thus, 45 chairs are arranged in 80 rows and 57 chairs are left.

5. Distance travelled in the first part = 2,450 km

Distance travelled in the second part = 3,500 km

Distance travelled in the third part = 2,700 km

Total distance travelled in 1st to 3rd part

= 2450 + 3500 + 2700 = 8650 km

Total distance between the two major cities

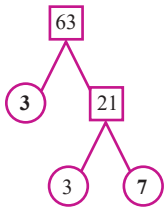
= 12,600 km

The distance need to be covered in the fourth part

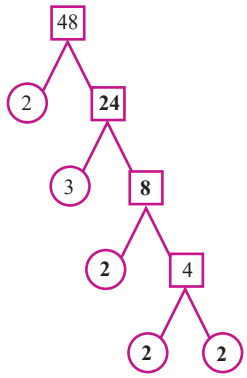
= 12,600 km – 8650 km = 3950 km

Thus, 3950 km is to be covered in fourth part to complete the journey.

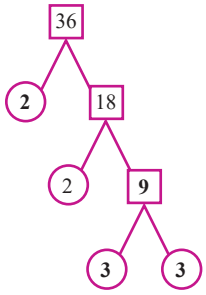
6. (*a*)



(*b*)



(*c*)



7. $\frac{1}{3}=\frac{2}{\boxed{6}}=\frac{\boxed{3}}{9}=\frac{4}{\boxed{12}}=\frac{\boxed{5}}{\boxed{15}}=\frac{\boxed{6}}{\boxed{18}}=\frac{\boxed{7}}{21}$

CHAPTER 7 : GEOMETRY

Let's Recall

1. (*a*) A solid with one curved face, 1 circular face and 1 corner is a cone.
(*b*) A solid with 12 edges and 6 rectangular faces is a cuboid.
(*c*) A 2-dimensional shape without any edge is a circle.

Practice Time 7A

1. (*a*) A point has no length, breadth or height.
(*b*) A line segment has definite length.
(*c*) A ray can extend in one direction.
(*d*) A line has no end point(s).

2. (*a*) Point P (*b*) Line $\overline{ST}$
(*c*) Ray $\overrightarrow{DC}$ (*d*) Line segment $\overline{UV}$

3. (*a*) Rays $\overrightarrow{OA}$, $\overrightarrow{OB}$, $\overrightarrow{OC}$, $\overrightarrow{OD}$
(*b*) Rays $\overrightarrow{OA}$, $\overrightarrow{OB}$, $\overrightarrow{OC}$, $\overrightarrow{OD}$, $\overrightarrow{OE}$, $\overrightarrow{OF}$, $\overrightarrow{OG}$, $\overrightarrow{OH}$
(*c*) Rays $\overrightarrow{PA}$, $\overrightarrow{PB}$, $\overrightarrow{PH}$, $\overrightarrow{PG}$, $\overrightarrow{DF}$, $\overrightarrow{CE}$, $\overrightarrow{CH}$, $\overrightarrow{DG}$

4. (*a*) Three points = P, Q, R (Answer may vary)
(*b*) Two line segments = $\overline{PQ}$, $\overline{PR}$
(Answer may vary)
(*c*) Three rays = $\overrightarrow{QX}$, $\overrightarrow{QY}$, $\overrightarrow{PX}$ (Answer may vary)
(*d*) A line = $\overleftrightarrow{PR}$

Think Tank (Page 133)

Railway tracks, Edges of a ruler, Zebra crossing, Ruled paper, *etc*.

Think Tank (Page 134)

1. Partially open doors, A pair of scissors, Hands of a clock, Cycle spokes, *etc*.

2. Parallel lines **3.** Perpendicular lines

Practice Time 7B

1. (*a*) Intersecting lines (*b*) Parallel lines
(*c*) Perpendicular lines (*d*) Intersecting lines
(*e*) Intersecting lines (*f*) Perpendicular lines

2. (*a*) Arms = $\overrightarrow{OA}$, $\overrightarrow{OB}$; Vertex = O;
Angle = $\angle AOB$
(*b*) Arms = $\overrightarrow{BA}$, $\overrightarrow{BC}$; Vertex = B;
Angle = $\angle ABC$
(*c*) Arms = $\overrightarrow{QP}$, $\overrightarrow{QR}$; Vertex = Q; Angle = $\angle PQR$

Practice Time 7C

2. Simple closed figure = (*b*), (*c*), (*e*), (*f*) and (*h*)

3. We know that, simple closed figures which are made with only line segments are called polygons. Therefore, (*b*), (*c*) and (*e*) are polygons.

4. (*a*) Sides of polygons = $\overline{AB}$, $\overline{BC}$, $\overline{CD}$ and $\overline{DA}$
(*b*) Sides of polygons = $\overline{XY}$, $\overline{YZ}$ and $\overline{ZX}$
(*c*) Sides of polygons = $\overline{MN}$, $\overline{NO}$, $\overline{OP}$ and $\overline{PM}$
(*d*) Sides of polygons = $\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{DE}$ and $\overline{EA}$

5. (*a*) All squares are rectangles. True
(*b*) All rectangles are squares. False
(*c*) A polygon has two sides. False
(*d*) There are four vertices in any squares. True
(*e*) All quadrilaterals are rectangles. False

Think Tank (Page 137)

A polygon is a closed figure made up only of straight lines.
While a circle is made up of a curved line.

Practice Time 7D

1. (*a*) A circle is a polygon. False
(*b*) All radii (Plural of radius) of a circle are of equal length. True
(*c*) All diameters of a circle are of equal length. True
(*d*) A circle has only one diameter. False
(*e*) A circle has only one centre. True
(*f*) The radius is half of the diameter of a circle. True

2. (*a*) Centre = O; radius = OA, OB and OC; diameter = BC
(*b*) Centre = O; radius = OA, OB; diameter = AB

3. (*a*) Radius = OA (*b*) Diameter = AB

5. (*a*) Radius = 10 cm (given)
We know that,
Diameter = 2 × radius
$\therefore$ Diameter = 2 × 10 cm = 20 cm

(*b*) Radius = 13 cm (given)
We know that,
Diameter = 2 × radius
∴ Diameter = 2 × 13 cm = 26 cm
(*c*) Radius = 9 cm (given)
We know that,
Diameter = 2 × radius
∴ Diameter = 2 × 9 cm = 18 cm
(*d*) Radius = 5 cm (given)
We know that
Diameter = 2 × radius
∴ Diameter = 2 × 5 cm = 10 cm
(*e*) Radius = 7 cm (given)
We know that,
Diameter = 2 × radius
∴ Diameter = 2 × 7 cm = 14 cm

6. (*a*) Diameter = 12 cm (given)
We know that,

$$\text{Radius} = \frac{\text{Diameter}}{2}$$

$$\text{Radius} = \frac{12}{2}\ \text{cm} = 6\ \text{cm}$$

(*b*) Diameter = 40 cm (given)
We know that,

$$\text{Radius} = \frac{\text{Diameter}}{2}$$

$$\text{Radius} = \frac{40}{2}\ \text{cm} = 20\ \text{cm}$$

(*c*) Diameter = 26 cm (given)
We know that,

$$\text{Radius} = \frac{\text{Diameter}}{2}$$

$$\text{Radius} = \frac{26}{2}\ \text{cm} = 13\ \text{cm}$$

(*d*) Diameter = 64 cm (given)
We know that,

$$\text{Radius} = \frac{\text{Diameter}}{2}$$

$$\text{Radius} = \frac{64}{2}\ \text{cm} = 32\ \text{cm}$$

(*e*) Diameter = 80 cm
We know that,

$$\text{Radius} = \frac{\text{Diameter}}{2}$$

$$\text{Radius} = \frac{80}{2}\ \text{cm} = 40\ \text{cm}$$

Practice Time 7E

1.

	Name of shape	No. of face(s)	No. of plane face(s)	No. of curved face(s)	No. of edge(s)	No. of vertices
(*a*)	Cube	6	6	0	12	8
(*b*)	Cuboid	6	6	0	12	8
(*c*)	Cylinder	3	2	1	2	0
(*d*)	Cone	2	1	1	1	1
(*e*)	Triangular Prism	5	5	0	9	6
(*f*)	Square Pyramid	5	5	0	8	5

2. (*b*),(*c*) can be used to form a cube.
4. (*a*) 66 cubes (*b*) 12 cubes
(*c*) 9 cubes

Mental Maths (Page 143)

1. Circle have no vertices.
2. Yes, semicircles have a line segment, which is its diameter.
3. No, circle is not a quadrilateral.
4. Minimum sides of a polygon is 3.
5. No, diameter is not shorter than the radius of the circle because diameter = 2 × radius.

Chapter Assessment

1. (*a*) – (*iv*) 8 line segments
(*b*) – (*iv*) 6 rectangles
(*c*) – (*iv*) The greatest distance between two points of a circle is diameter
(*d*) – (*iii*) A solid with no vertex is hemisphere.
(*e*) – (*ii*) Two cubes of the same size put together form a cuboid.
(*f*) – (*ii*) Point.
(*g*) – (*iii*)

2. (*a*) Five points = A, B, O, D, E (Answer may vary)
(*b*) A line = $\overleftrightarrow{BF}$ (Answer may vary)
(*c*) Four rays = $\overrightarrow{OA}$, $\overrightarrow{OB}$, $\overrightarrow{OD}$, $\overrightarrow{OF}$
(*d*) A line segment = $\overline{OE}$

3. (*a*) Line segment BE is parallel to $\overline{AD}$.
(*b*) Line segment BC is perpendicular to $\overline{AB}$ and $\overline{CD}$.
(*c*) Line segment AC is parallel to line segment DE.

(*d*) $\overline{AC}$ and $\overline{BD}$ intersect at point O.

4. Capital letters of the English alphabet using 4 line segments are E, M, W.

5. (*a*) O = centre (*b*) $\overline{OB}$ = radius

(*c*) $\overline{OC}$ = radius (*d*) $\overline{CD}$ = diameter

6. (*a*) There are three circles in the image.

(*b*) Centre of the largest circle = O

Diameter of the largest circle = AB

Radii of the largest circle = OA, OB

(*c*) OA = 7 cm

AB = 2 × OA

AB = 2 × 7 cm = 14 cm

7.

Radius	8 cm	**9 cm**	**2 cm**	5 cm	**4 cm**
Diameter	**16 cm**	18 cm	4 cm	**10 cm**	8 cm

Challenge Question (Page 146)

1. We know that radius = $\frac{\text{diameter}}{2}$

$\therefore \quad r = \frac{16}{2} = 8$ cm

The radius of the given circle is 8 cm.

2. The diameter of the given circle is 16 cm.

CHAPTER 8 : SYMMETRY AND PATTERNS

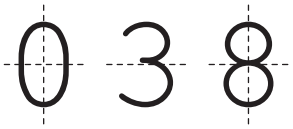
Let's Recall

1. (*a*) and (*b*)

2. (*a*)  (*b*) 100000

Think Tank (Page 150)

1. Yes, line of symmetry = 0, 3 and 8.



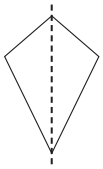
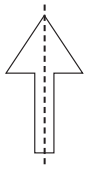
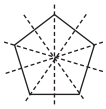
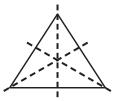
2.  (Answer may vary)

Practice Time 8A

1. Symmetrical figures are (*a*), (*e*) and (*f*).

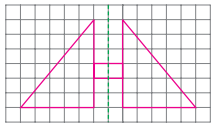
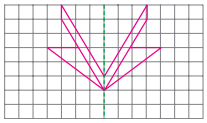
2. (*a*)  (*b*)  (*c*)  (*d*) 

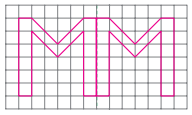
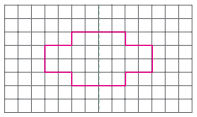
3. (*a*) and (*c*)

4. (*a*)  (*b*)  (*c*)  (*d*) 

Practice Time 8B

1. (*b*), (*d*), (*e*) and (*f*)

2. (*a*)  (*b*) 

(*c*)  (*d*) 

Fast Check (Page 154)

1. 235897 → ~~23587~~ → 358

Since, sum of 3 + 5 + 8 = 16 and

1 + 6 = 7, not divisible by 9.

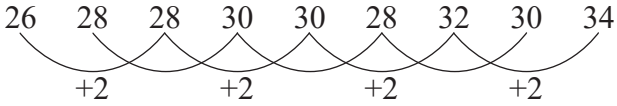
So, the number 235897 is not multiple of 9.

2. ~~6810453~~ → ~~603~~ → 0 divisible by 9

So, the number 6810453 is multiple of 9.

Think Tank (Page 155)

Given number pattern is



Practice Time 8C

1. (*a*) 1, 4, 7, 10, 13, 16, 19, 22, 25 [+3 to each previous term]

(*b*) 3, 12, 21, 30, 39, 48, 57, 66 [+9 to each previous term]

(*c*) 7, 11, 15, 19, 23, 27, 31, 35, 39 [+4 to each previous term]

(*d*) 512, 256, 128, 64, 32, 16, 8 [÷2 to each previous term]

2. (*a*) 1234 × 9 + 5 = 11111

12345 × 9 + 6 = 111111

(*b*) 9876 × 9 + 4 = 88888

98765 × 9 + 3 = 888888

(*c*) 12345 × 8 + 5 = 98765

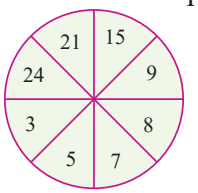
123456 × 8 + 6 = 987654

(*d*) 20000 ÷ 2000 = 10

20000 ÷ 20000 = 1

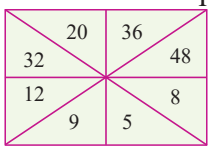
3. (*a*) 555 × 5 = 2775 (b) 37 × 3 × 3 = 333
5555 × 5 = 27775 37 × 3 × 5 = 555
55555 × 5 = 277775

4. (*a*) Rule: 3 × 3 = 9, 5 × 3 = 15, 7 × 3 = 21,
(*i.e.*, each number is multiplied by 3)



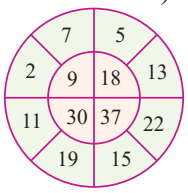
Hence, the missing number = 8 × 3 = 24.

(*b*) Rule: 9 × 4 = 36, 8 × 4 = 32, 12 × 4 = 48
(*i.e.*, each number is multiplied by 4).



Hence, the missing number = 5 × 4 = 20.

(*c*) Rule: 2 + 7 = 9, 5 + 13 = 18, 22 + 15 = 37
(*i.e.*, addition of two numbers is equal to the number inside the circle)



Hence, the missing number = 19 + 11 = 30.

Practice Time 8D

1.(*a*), (*b*), (*e*), (*f*)

Think Tank (Page 159)

9 12 15 22 5 9 14 4 9 1
I L O V E I N D I A

Practice Time 8E

1. (*a*) 2 5 8 5 18 5 14 15 23
(*b*) 2 5 12 9 5 22 5 9 14 25 15 21 18 19 5 12 6
(*c*) 4 15 9 20 14 15 23
(*d*) 4 15 25 15 21 18 2 5 19 20
(*e*) 4 18 5 1 13 19 3 15 13 5 20 18 21 5

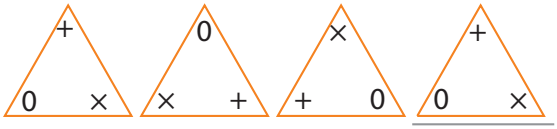
2. (*a*) FOCUS AND WIN
(*b*) IT IS POSSIBLE
(*c*) YES YOU CAN
(*d*) NEVER GIVE UP

Mental Maths (Page 159)

1. (*a*) A triangle whose two sides are equal has 1 line of symmetry.

2. (*d*) 2, 4, 8, 16

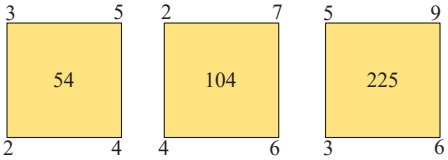
3. (*c*)



Chapter Assessment

1. (*a*) (*i*) Circle has infinite lines of symmetry.
(*b*) (*iii*) 918
(∵ 123 × 7 = 861, 51 × 7 = 357,
51 × 9 = 459, ∴ 102 × 9 = 918)
Hence, the missing number is 918.

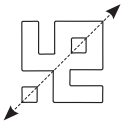
(*c*) (*ii*)



In Fig. 1 = (3 × 2) × (5 + 4)
= 6 × 9 = 54
In Fig. 2 = (2 × 4) × (7 + 6)
= 8 × 13 = 104
In Fig 3 = (5 × 3) × (9 + 6)
= 15 × 15 = 225
Hence, the missing number is 225.

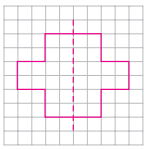
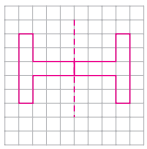
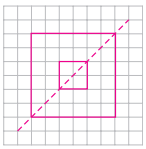
(*d*) (*iv*) There will be 15 circles in pattern 8.

2.



3.(*a*)  (*b*)  (*c*)  (*d*)  (*e*) 

4. (*a*)  (*b*)  (*c*) 

5. (*a*)  (*b*)  (*c*) 

6. (*a*), (*d*).

7. ABC, ZYX, DEF, WVU, GHI, TSR

8. 4 ($\because 6 \times 7 = 42, 7 \times 9 = 63, 4 \times 9 = 36$)

9. (*a*) $8000 + 1000 = 9000$, $80000 + 10000 = 90000$

(*b*) $1234 \times 9 + 5 = 11111$

$12345 \times 9 + 6 = 111111$

(*c*) $3333 \times 3 = 9999$, $33333 \times 3 = 99999$

(*d*) $24000 \div 8 = 3000$, $240000 \div 8 = 30000$

10. (*a*) 5 14 10 15 25 12 9 6 5

(*b*) 20 18 25 1 7 1 9 14

(*c*) 19 20 1 25 16 15 19 9 20 9 22 5

11. (*a*) HOW ARE YOU

(*b*) CHANGE IS GOOD

(*c*) PLANT MORE TREES

CHAPTER 9 : MEASUREMENT

Let's Recall

1. (*a*) We know that, 1 m = 100 cm

$\therefore$ 40 m and 15 cm = (40 × 100) cm + 15 cm

= 4000 cm + 15 cm = 4015 cm

(*b*) We know that, 1 kg = 1000 g

$\therefore$ 4 kg 200 g = (4 × 1000) g + 200 g

= 4000 g + 200 g = 4200 g

(*c*) We know that, 1 L = 1000 mL

$\therefore$ 18 L 180 mL = (18 × 1000) mL + 180 mL

= 18000 mL + 180 mL = 18180 mL

2. (*a*)

	cm	mm
	(1)	
	1 1	9
+	2 7	5
	3 9	4

Thus, 11 cm 9 mm + 27 cm 5 mm = 39 cm 4 mm

(*b*)

	kg	g
		(13)
	(6) (16)	(4) ~~(3)~~ (10)
	~~7~~ ~~6~~	~~5~~ ~~4~~ ~~0~~
−	3 9	1 9 5
	3 7	3 4 5

Thus, 76 kg 540 g – 39 kg 195 g = 37 kg 345 g

(*c*)

	L	mL
		(4) (10)
	8 7	~~5~~ ~~0~~ 0
−	4 3	2 5 0
	4 4	2 5 0

Thus, 87 L 500 mL – 43 L 250 mL

= 44 L 250 mL

Challenge Question (Page 169)

The villages are 3 km 700 m apart.

Since 1 km is represented by 1 cm, and 700 m is represented by 7 mm.

Thus the distance 3 km and 700 m is represented by 3 cm and 7 mm.

Practice Time 9A

1. (*a*) We have, 1 m = 100 cm

So, 63 m = 63 × 100 cm = 6300 cm

(*b*) We have, 1 m = 100 cm

So, 150 m = (150 × 100) cm = 15000 cm

(*c*) We have, 1 m = 100 cm

So, 16 m 40 cm = (16 × 100) cm + 40 cm

= 1600 cm + 40 cm = 1640 cm

(*d*) We have, 1 m = 100 cm

So, 30 m 5 cm = (30 × 100) cm + 5 cm

= 3000 cm + 5 cm = 3005 cm

2. (*a*) We have, 1 cm = 10 mm

So, 29 cm = (29 × 10) mm = 290 mm

(*b*) We have, 1 cm = 10 mm

So, 180 cm = (180 × 10) mm = 1800 mm

(*c*) We have, 1 cm = 10 mm

So, 16 cm 3 mm = (16 × 10) mm + 3 mm

= 160 mm + 3 mm = 163 mm

(*d*) We have, 1 cm = 10 mm

So, 25 cm 8 mm = (25 × 10) mm + 8 mm

= 250 mm + 8 mm = 258 mm

3. (*a*) We have, 1 km = 1000 m

So, 24 km = (24 × 1000) m = 24000 m

(*b*) We have, 1 km = 1000 m

So, 96 km = (96 × 1000) m = 96000 m

(*c*) We have, 1 km = 1000 m

So, 8 km 417 m = (8 × 1000) m + 417 m

= 8000 m + 417 m = 8417 m

(*d*) 26 km 42 m = (26 × 1000) m + 42 m

($\because$ 1 km = 1000 m)

= 26000 m + 42 m = 26042 m

4. (*a*) We have, 1 m = 10 dm

So, 39 m = (39 × 10) dm = 390 dm

(*b*) We have, 1 m = 10 dm

So, 118 m = (118 × 10) dm = 1180 dm

(*c*) We have, 1 m = 10 dm

So, 19 m 9 dm = (19 × 10) dm + 9 dm

= 190 dm + 9 dm = 199 dm

(*d*) We have, 1 m = 10 dm
So, 109 m 2 dm = (109 × 10) dm + 2 dm
= 1090 dm + 2 dm = 1092 dm

5. (*a*) We have, 1 km = 100 dam
So, 13 km = (13 × 100) dam = 1300 dam

(*b*) We have, 1 hm = 10 dam
So, 18 hm = (18 × 10) dam = 180 dam

(*c*) We have, 1 km = 100 dam and 1 hm = 10 dam
So, 5 km 10 hm = (5 × 100) dam + (10 × 10) dam
= 500 dam + 100 dam = 600 dam

6. (*a*) We know that,
1 km = 1000 m, 1 hm = 100 m, 1 dam = 10 m
2 km 1 hm 6 dam 8 m = (2 × 1000) m
+ (1 × 100) m + (6 × 10) m + 8 m
= 2000 m + 100 m + 60 m + 8 m = 2168 m

(*b*) We know that,
1 km = 1000 m, 1 hm = 100 m, 1 dam = 10 m.
12 km 6 hm 9 dam 4 m = (12 × 1000) m
+ (6 × 100) m + (9 × 10) m + 4 m
= 12000 m + 600 m + 90 m + 4 m = 12694 m

7. (*a*) We have, 10 mm = 1 cm
So, 105 mm = 100 mm + 5 mm
= (100 ÷ 10) cm + 5 mm = 10 cm 5 mm

(*b*) We have, 100 cm = 1 m
So, 685 cm = 600 cm + 85 cm
= (600 ÷ 100) m + 85 cm = 6 m 85 cm

(*c*) We have, 1000 m = 1 km
So, 8000 m = (8000 ÷ 1000) km = 8 km

(*d*) We have, 1000 m = 1 km
So, 16300 m = 16000 m + 300 m
= (16000 ÷ 1000) km + 300 m = 16 km 300 m

8. (*a*) We have, 1 foot = 12 inches
Therefore, 18 ft = 18 × 12 in = 216 in

(*b*) We have, 1 foot = 12 inches
Therefore, 5 ft 24 in = (5 × 12) in + 24 in
= 60 in + 24 in = 84 in

(*c*) We have, 12 inches = 1 foot
To convert inches to ft, we will divide by 12.
Therefore,

$$\begin{array}{r} 12\overline{)108}\,(9 \\ -108 \\ \hline 0 \end{array}$$ → Quotient; → Remainder

108 in = (108 ÷ 12) ft = 9 ft.

(*d*) We have, 12 in = 1 ft
To convert inches to ft, we will divide by 12.
Therefore,

$$\begin{array}{r} 12\overline{)141}\,(11 \\ -12\downarrow \\ \hline 021 \\ -\ 12 \\ \hline 09 \end{array}$$ → Quotient; → Remainder

Here, the quotient becomes feet (ft) and the remainder becomes inch (in).
So, 141 in = 11 ft 9 in.

Practice Time 9B

1. (*a*)

	km		m			cm	
	(1)		(1)	(1)	(1)	(1)	
	2	4	1	7	5	4	2
	1	3	1	0	4	5	3
+	0	5	0	8	1	0	9
	4	2	3	6	1	0	4

Thus, 24 km 175 m 42 cm + 13 km 104 m 53 cm + 05 km 81 m 9 cm = 42 km 361 m 4 cm.

(*b*)

		m			cm		mm
			(1)	(1)	(1)		
	2	1	3		3	8	6
	1	4	1		4	3	5
+	1	2	0		9	1	7
	4	7	5		7	3	8

Thus, 213 m 38 cm 6 mm + 141 m 43 cm 5 mm + 120 m 91 cm 7 mm = 475 m 73 cm 8 mm.

(*c*)

	km		m			cm		mm
	(1)		(1)	(2)	(1)	(1)		
	1	8	2	1	8	4	3	2
	2	4	1	4	8	3	7	5
+	3	4	2	3	3	7	2	2
	7	6	6	0	0	5	2	9

Thus, 18 km 218 m 43 cm 2 mm + 24 km 148 m 37 cm 5 mm + 34 km 233 m 72 cm 2 mm = 76 km 600 m 52 cm 9 mm.

2. (*a*)

	km		m		
		(11)			
	(6)	(1)	(11)	(8)	(11)
	~~7~~	~~2~~	~~1~~	~~9~~	~~1~~
−	1	8	3	5	7
	5	3	8	3	4

Thus, 72 km 191 m – 18 km 357 m = 53 km 834 m

(*b*)

	m		cm		mm
			(9)	(12)	
		(3)	(10)	2	(18)
	5	4	0	3	8
–	1	0	9	8	9
	4	3	0	4	9

Thus, 54 m 3 cm 8 mm – 10 m 98 cm 9 mm = 43 m 4 cm 9 mm.

(*c*)

	km			m			cm	
					(15)			
		(4)	(14)	(3)	5	(13)	(2)	(11)
	1	5	4	4	6	3	3	1
–		4	6	1	8	7	2	6
	1	0	8	2	7	6	0	5

Thus, 154 km 463 m 31 cm – 46 km 187 m 26 cm = 108 km 276 m 5 cm.

3. (*a*)

	m		cm	
	(1)	(1)	(1)	
	2	8	6	5
+		7	5	6
	3	6	2	1

Thus, 28 m 65 cm + 7 m 56 cm = 36 m 21 cm.

(*b*)

	m		cm	
		(12)	(15)	
	(4)	2	5	(14)
	3	3	6	4
–	2	5	6	9
	2	7	9	5

Thus, 53 m 64 cm – 25 m 69 cm = 27 m 95 cm.

(*c*)

	km			m			cm	
		(14)		(9)				
	(5)	4		10	(14)		(3)	(10)
	0	3		0	4	5	4	0
–	1	6		2	7	5	1	8
	4	8		7	7	0	2	2

Thus, 65 km 45 m 40 cm – 16 km 275 m 18 cm = 48 km 770 m 22 cm.

(*d*)

	km			m			cm	
	(1)			(1)	(1)		(1)	
	2	9		1	2	6	0	8
+	2	9			7	7	3	6
	5	8		2	0	3	4	4

Thus, 29 km 126 m 08 cm – 29 km 77 m 36 cm = 58 km 203 m 44 cm.

4.

	m		cm	
Total length of wool roll =	1	7	1	6
Length of cutting piece of wool = –		8	4	2
Length of wool left in the roll =		8	7	4

Thus, 8 m 74 cm length of wool is left in the roll.

5.

	km			m		
Distance travelled by train =	2	1	8	3	2	5
Distance travelled by bus =		5	8	2	1	8
Distance travelled by car = +		0	4	7	0	5
Total distance travelled =	2	8	1	2	4	8

Thus, Rohan travelled 281 km 248 m in all.

6.

	km				m		
Length of actual wall=	6	2	5	9	6	0	0
Length of trenches=–		3	5	9	7	0	0
Total length of actual wall and trenches=	6	6	1	9	3	0	0

	km				m		
Length of great wall of China=	8	8	5	1	8	0	0
Total length of actual wall and trenches=–	6	6	1	9	3	0	0
Length of natural barriers=	2	2	3	2	5	0	0

Thus, 2232 km 500 m length of natural barriers make the great wall of China.

7.

	km			m		
Distance covered by car in the morning =	1		2	5	0	
Distance travelled by the car in afternoon = +			8	0	0	
Total distance covered =	2		5	0		

As, the total tour is of 5 km, the remaining distance it must go in the evening = 5 km – 2 km 50 m = 2 km 950 m.

Think Tank (Page 173)

Both are of equal weight.

Challenge Question (Page 174)

Since, 1050 ÷ 200 ⇒ Q = 5 and R = 50, *i.e.*, there are 5 weights of 200 g each and the small extra weight is of 50 g.

Practice Time 9C

1. (*a*) We have, 1 kg = 1000 g

So, 26 kg = (26 × 1000) g = 26000 g

(*b*) We have, 1 kg = 1000 g

So, 320 kg 45 g = 320 kg + 45 g

= (320 × 1000) g + 45 g

= 320000 g + 45 g = 320045 g

(*c*) We have, 1 g = 1000 mg
So, 45 g = (45 × 1000) mg = 45000 mg

(*d*) We have, 1 g = 1000 mg
So, 140 g 203 mg = 140 g + 203 mg
= (140 × 1000) mg + 203 mg
= 140000 mg + 203 mg
= 140203 mg.

2. (*a*) 9 kg 1 hg 4 dag 5 g = (9 × 1000) g + (1 × 100) g + (4 × 10) g + 5 g
= 9000 g + 100 g + 40 g + 5 g = 9145 g

(*b*) 20 kg 4 hg 9 dag 8 g = (20 × 1000) g + (4 × 100) g + (9 × 10) g + 8 g
= 20000 g + 400 g + 90 g + 8 g = 20498 g

3. (*a*) We have, 1000g = 1 kg
So, 9000 g = (9000 ÷ 1000) kg = 9 kg

(*b*) We have, 1000 g = 1 kg
So, 4323 g = 4000 g + 323 g
= (4000 ÷ 1000) kg + 323 g
= 4 kg 323 g

(*c*) We have, 1000 g = 1 kg
3065 g = 3000 g + 65 g
= (3000 ÷ 1000) kg + 65 g = 3 kg 65 g

(*d*) We have, 1000 mg = 1 g
So, 25605 mg = 25000 mg + 605 mg
= (25000 ÷ 1000) g + 605 mg
= 25 g 605 mg

4. (*a*) We have, 1 ton = 10 quintals
Therefore, 14 tons = 14 × 10 = 140 quintals.

(*b*) We have, 1 quintal = 100 kg
So, 125 quintals = 125 × 100 kg = 12500 kg

(*c*) We have, 10 quintals = 1 ton
So, 1200 quintals = 1200 ÷ 10 = 120 ton

(*d*) We have, 1 ton = 1000 kg and 1 quintal = 100 kg
So 13 tons 8 quintals
= (13 × 1000) kg + (8 × 100) kg
= 13000 kg + 800 kg = 13800 kg

Challenge Question (Page 176)

Weight on one side of balance scale = 2 kg 450 g
Weight on other side of balance scale = 1 kg 800 g + some grapes
So, weight of grapes = 2 kg 450 g – 1 kg 800 g = 650 g
Weight of grapes needs to be added after eating 250 g from 650g of grapes is 250 g.

Practice Time 9D

1. (*a*)

	kg			g			mg		
	(1)	(1)				(1)	(1)	(1)	
	3	4	3	5	5	0	3	5	6
+	2	7	8	0	0	4	9	8	7
	6	2	1	5	5	5	3	4	3

Thus, 343 kg 550 g 356 mg + 278 kg 4 g 987 mg = 621 kg 555 g 343 mg.

(*b*)

	kg			g			mg		
				(1)			(1)		
	6	0	0	5	4	0	0	8	3
+	3	3	9	2	6	1	6	5	0
	9	3	9	8	0	1	7	3	3

Thus, 600 kg 540 g 83 mg + 339 kg 261 g 650 mg = 939 kg 801 g and 733 mg.

(*c*)

	kg			g			mg		
				(12)	(10)		(9)		
	(3)	(10)	(7)	~~(2)~~	~~(0)~~	(10)	~~(4)~~	~~(10)~~	(10)
	~~4~~	~~0~~	~~8~~	~~3~~	~~1~~	~~0~~	~~5~~	~~0~~	~~0~~
–	1	4	5	6	7	5	3	9	5
	2	6	2	6	3	5	1	0	5

Thus, 408 kg 310 g 500 mg – 145 kg 675 g 395 mg = 262 kg 635 g 105 mg.

(*d*)

	kg			g			mg		
		(9)			(13)				
	(6)	~~(10)~~	(10)	(7)	~~(3)~~	(11)	(2)	(10)	
	~~7~~	~~0~~	~~0~~	~~8~~	~~4~~	~~1~~	~~3~~	~~0~~	0
–	3	2	4	5	4	9	2	9	0
	3	7	6	2	9	2	0	1	0

Thus, 700 kg 841 g 300 mg – 324 kg 549 g 290 mg = 376 kg 292 g 10 mg.

2. (*a*)

	kg		g		
	(1)	(1)	(1)	(1)	
	3	8	9	4	6
+	2	2	6	6	5
	6	1	6	1	1

Thus, 38 kg 946 g + 22 kg 665 g = 61 kg 611 g.

(*b*)

	kg		g			mg		
	(1)	(1)	(1)		(1)			
	2	6	4	3	0	4	0	0
+	2	7	5	7	0	6	0	0
	5	4	0	0	1	0	0	0

Thus, 26 kg 430 g 400 mg + 27 kg 570 g 600 mg = 54 kg 1 g.

(*c*)

	kg		g			mg	
	(1)	(1)	(1)			(1)	
	3	5	5	8	5	1	7
+	2	8	8	9	4	0	8
	6	4	4	7	9	2	5

Thus, 35 kg 585 g 17 mg + 28 kg 894 g 08 mg = 64 kg 479 g 25 mg.

(*d*)

	kg			g			mg		
						(1)	(1)		
	3	6	0	0	0	0	8	7	0
+	0	0	0	1	4	0	5	5	0
	3	6	0	1	4	1	4	2	0

Thus, 360 kg 870 mg + 140 g 550 mg = 360 kg 141 g 420 mg.

3. (*a*)

	kg		g		
	5	6	0	3	6
–	5	4	0	2	0
	0	2	0	1	6

Thus, 56 kg 36 g – 54 kg 20 g = 2 kg 16 g.

(*b*)

	kg			g			mg		
	(5)	(12)		(6)	(15)	(5)	(10)		
	~~6~~	~~2~~	0	~~7~~	~~5~~	~~6~~	~~0~~	8	0
–	5	8	0	0	9	0	4	5	0
	0	4	0	6	6	5	6	3	0

Thus, 620 kg 756 g 80 mg – 580 kg 90 g 450 mg = 40 kg 665 g 630 mg.

(*c*)

	kg		g			mg		
					(9)			
	(1)	(15)		(3)	~~(10)~~	(10)	(8)	(10)
	~~2~~	~~5~~	0	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~
–	1	8	0	2	8	3	8	9
	0	7	0	1	1	7	0	1

Thus, 25 kg 40g 90 mg – 18 kg 28 g 389 mg = 7 kg 11 g 701 mg.

(*d*)

	kg			g			mg		
			(9)	(9)	(13)	(13)			
		(4)	~~(10)~~	~~(10)~~	~~(3)~~	~~(3)~~	(12)		
	3	~~5~~	~~0~~	0	~~4~~	~~4~~	~~2~~	7	5
–	1	1	0	0	6	7	8	6	0
	2	3	9	9	7	6	4	1	5

Thus, 350 kg 44 g 275 mg – 110 kg 67 g 860 mg = 239 kg 976 g 415 mg.

Fast Check (Page 177)

4 litres of liquid is there in the container.
We know that, 1 L = 1000 mL
∴ 4 L = 4 × 1000 = 4000 mL
Thus, the container has 4000 mL liquid.

Practice Time 9E

1. (*a*) We have, 1 L = 1000 mL
So, 16 L = (16 × 1000) mL = 16000 mL

(*b*) We have, 1 dL = 100 mL
So, 11 dL = (11 × 100) mL = 1100 mL

(*c*) We have, 1 L = 1000 mL
So, 15 L 350 mL = (15 × 1000) mL + 350 mL
= 15000 mL + 350 mL
= 15350 mL

(*d*) We have, 1 dL = 100 mL
So, 16 dL 80 mL = (16 × 100) mL + 80 mL
= 1600 mL + 80 mL = 1680 mL

2. (*a*) We have, 1000 mL = 1 L
So, 3500 mL = 3000 mL + 500 mL
= (3000 ÷ 1000) L + 500 mL
= 3 L 500 mL

(*b*) We have, 1000 mL = 1 L
So, 8756 mL = 8000 mL + 756 mL
= (8000 ÷ 1000) L + 756 mL
= 8 L 756 mL

(*c*) We have, 1000 mL = 1 L
So, 9767 mL = 9000 mL + 767 mL
= (9000 ÷ 1000) L + 767 mL
= 9 L 767 mL

(*d*) We have, 1000 mL = 1 L
So, 1808 mL = 1000 mL + 808 mL
= (1000 ÷ 1000) L + 808 mL
= 1 L 808 mL

3. (*a*) We have 1 kL = 1000 L
So, 26 kL = (26 × 1000) L = 26000 L

(*b*) We have, 1 hL = 100 L
So, 30 hL = (30 × 100) L = 3000 L

(*c*) We have, 1 daL = 10 L
So, 156 daL = (156 × 10) L = 1560 L

(*d*) We have, 1 kL = 1000 L
So, 12 kL 470 L = (12 × 1000) L + 470 L
= 12000 L + 470 L = 12470 L

(*e*) We have, 1 hL = 100 L
So, 63 hL 65 L = (63 × 100) L + 65 L
= 6300 L + 65 L = 6365 L

(*f*) We have, 1 kL = 1000 L, 1 hL = 100 L
and 1 daL = 10 L
So, 6 kL 9 hL 5 daL 4 L
= (6 × 1000) L + (9 × 100) L + (5 × 10) L + 4 L
= 6000 L + 900 L + 50 L + 4 L = 6954 L

4. (*a*) We have, 1000 L = 1 kL
So, 13000 L = (13000 ÷ 1000) kL = 13 kL

(*b*) We have, 1000 L = 1 kL
So, 12000 L = (12000 ÷ 1000) kL = 12 kL

(*c*) We have, 1000 L = 1 kL
So, 6352 L = 6000 L + 352 L
= (6000 ÷ 1000) kL + 352 L
= 6 kL 352 L

(*d*) We have, 1000 L = 1 kL
So, 2008 L = 2000 L + 8 L
= (2000 ÷ 1000) kL + 8 L
= 2 kL 8 L

5. 2 L 500 mL = 2500 mL
Now, capacity of 1 medicine bottle = 120 mL
So, number of full bottles required is 2500 ÷ 120
⇒ Q = 20 and R = 100
Thus, 20 full bottles are required and 100 mL will be left to pour from an extra bottle of medicine.

Practice Time 9F

1. (*a*)

	kL		L			mL		
						(1)		
		8	1	3	5	2	4	5
+		7	0	6	3	1	0	7
	1	5	1	9	8	3	5	2

Thus, 8 kL 135 L 245 mL + 7 kL 63 L 107 mL
= 15 kL 198 L 352 mL.

(*b*)

	L			mL		
		(9)		(11)		
	(7)	~~(10)~~		~~(1)~~	(16)	
	1	~~8~~	~~0~~	~~2~~	~~6~~	5
–		5	9	4	7	0
	1	2	0	7	9	5

Thus, 180 L 265 mL – 59 L 470 mL
= 120 L 795 mL.

(*c*)

	kL		L			mL		
	(3)	(15)					(2)	(14)
	~~4~~	~~5~~	3	9	5	0	~~3~~	~~4~~
–	2	8	0	6	5	0	2	8
	1	7	3	3	0	0	0	6

Thus, 45 kL 395 L 34 mL – 28 kL 65 L 28 mL
= 17 kL 330 L 6 mL.

2. (*a*)

	L		mL		
		(1)	(1)	(1)	
	5	0	7	2	5
	1	8		8	0
+	1	0	2	2	5
	7	9	0	3	0

Thus, 50 L 725 mL + 18 L 80 mL + 10 L 225 mL
= 79 L 30 mL.

(*b*)

	kL		L		
	(1)	(1)			
	3	2	8	6	4
+	1	8	4	3	5
	5	1	2	9	9

Thus, 32 kL 864 L + 18 kL 435 L = 51 kL 299 L.

(*c*)

	kL		L			mL		
						(1)		
		9	0	7	2	0	7	0
+		8	0	2	5	7	5	0
	1	7	0	9	7	8	2	0

Thus, 9 kL 72 L 70 mL + 8 kL 25 L 750 mL
= 17 kL 97 L 820 mL.

(*d*)

	kL			L			mL		
				(1)			(1)	(1)	
	2	5	0	0	7	0	6	5
+	0	0	0	1	8	4	5	6
	2	5	0	2	5	5	2	1

Thus, 25 kL 7 L 65 mL + 18 L 456 mL = 25 kL
25 L 521 mL.

3. (*a*)

	L		mL		
	(8)	(10)			
	~~9~~	~~0~~	7	7	0
–	1	9	7	5	0
	7	1	0	2	0

Thus, 90 L 770 mL – 19 L 750 mL = 71 L 20 mL.

(*b*)

	kL		L		
	(2)	(10)		(3)	(10)
	~~3~~	~~0~~	0	~~4~~	~~0~~
–	2	6	0	2	8
	0	4	0	1	2

Thus, 30 kL 40 L – 26 kL 28 L = 4 kL 12 L.

(*c*)

	kL		L			mL		
		14	9					
	2	4	10	12				
	3	5	0	2	6	4	7	0
–	1	7	4	5	0	1	4	0
	1	7	5	7	6	3	3	0

Thus, 35 kL 26 L 470 mL – 17 kL 450 L 140 mL = 17 kL 576 L 330 mL.

(*d*)

	kL		L			mL		
			9	9				
		6	10	10	10			
	1	7	0	0	0	3	7	8
–	0	0	0	1	9	3	0	0
	1	6	9	8	1	0	7	8

Thus, 17 kL 378 mL – 19 L 300 mL = 16 kL 981 L 78 mL.

4.

	L			mL		
	2	1		2		
Sale of milk on Ist day =	6	8		8	5	0
Sale of milk on 2nd day =	9	8		7	6	0
Sale of milk on 3rd day = +	8	4		0	9	0
Total sale of milk in 3 days =	2	5	1	7	0	0

Thus, total sale of milk in 3 days is 251 L 700 mL.

5.

	kL			L		
		11		9		
	0	1		10	10	
Water carried by the tanker =	1	1		0	0	0
Water distributed in colony A = –	0	4		9	5	0
Water received in colony B =	0	7		0	5	0

Thus, 7 kL 50 L water is received in colony B.

6. Given, rate at which a tank is emptying = 1250 L/hour

And, the time taken to empty the tank = 2 hours

So, the capacity of the tank = 2 × 1250 = 2500 L = 2 kL 500 L

Mental Maths (Page 181)

1. 2 m = 2000 mm

(∵ 2 m = 200 cm = (200 × 10) mm = 2000 mm)

2. 2000 mL = 2 L (∵ (2000 ÷ 1000) L = 2 L)

3. 1 gram = 100 centigram.

4.

	km		m		
		9			
	0	10	10		
	1	0	0	0	0
–	0	3	5	0	0
	0	6	5	0	0

On subtracting 3 km 500 m from 10 km, we get 6 km 500 m.

5.

	L		mL		
	0	10			
	1	0	5	0	0
–	0	8	0	0	0
	0	2	5	0	0

So, when 8 L of juice is distributed out of 10 L 500 mL of juice, the quantity of juice left is 2 L 500 mL.

We have 1 L = 1000 mL ∴ 2 L = 2000 mL

∴ 2 L 500 mL = 2000 mL + 500 mL = 2500 mL

Chapter Assessment

1. (*a*) – (*iii*) 3 L 50 mL = 3050 mL ≠ 3500 mL

Hence, statement is wrong.

(*b*) – (*i*) 12 km 55 m = (12 × 1000) m + 55 m

= 12000 m + 55 m = 12055 m

(*c*) – (*iii*) 5 kg – (500 g + 200 g + 50 g)

= 5000 g – 750 g = 4250 g = 4 kg 250 g

(*d*) – (*ii*)

	kg		g		
	1		1		
Weight of vegetables =	2		2	5	0
Weight of pulses =	1		0	0	0
Weight of sugar = +	3		7	5	0
Total weight of the items =	7		0	0	0

(*e*) (*iv*) A bottle contains 1 L of water

1 L = 1000 mL

She drank $\frac{3}{4}$ L of water

i.e., $\frac{3}{4} \times 1000 = 750$ mL

Her friend drank 150 mL of water

∴ Water left in the bottle

= 1000 mL – 750 mL – 150 mL

= 250 mL – 150 mL = 100 mL

2. (*a*) 5 tons = 50 quintals = 5000 kg
(∵ 1 ton = 10 quintals and 1 quintal = 100 kg)
∴ 5 tons = 5 × 10 quintals
= 50 quintals and 50 quintals
= 50 × 100 kg = 5000 kg

(*b*) 41 quintals = 4100 kg = 4100000 g
(∵ 1 quintal = 100 kg and 1 kg = 1000 g)
∴ 41 quintals = 41 × 100 kg = 4100 kg
and 4100 × 1000 g = 4100000 g

(*c*) 11 tons = 11000 kg = 11000000 g
(∵ 1 ton = 1000 kg and 1 kg = 1000 g)
∴ 11 tons = 11 × 1000 kg = 11000 kg
and 11000 × 1000 g = 11000000 g

(*d*) 13 ft 9 in = 165 in
(∵ 1 ft = 12 in ∴ 13 ft = 13 × 12
= 156 in + 9 in = 165 in)

(*e*) 18 in = 1 ft 6 in (∵ 12 in = 1 ft)
∴ 18 in ÷ 12 = 1 ft 6 in

$$12\overline{)\,18\,(1}$$
$$\underline{-12}$$
$$6$$

3. (*a*) Metre is the greatest unit of measurement. — False

(*b*) 500 g + 500 g = 1 kg. — True

(*c*) Half of a kilometre is 50 m. — False

(*d*) 10500 mL = 10 L 500 mL. — True

(*e*) 10 decametres = 1 metre. — False

4. 50 mL of milk is used to make a cup of tea.
Milk required to make 24 cups of tea = 50 × 24
= 1200 mL or 1 L 200 mL

5.

	m		cm	
Cloth bought =	1	5	9	5
Used cloth = –	1	1	7	5
Length of cloth left with Maya =	0	4	2	0

Thus, 4 m 20 cm cloth is left with her.

6.

	L		mL		
Juice sold =	3	6	7	5	6
Less juice sold by neighbouring shop = –		5	3	6	4
Juice sold by neighbouring shop everyday =	3	1	3	9	2

Thus, the neighbouring juice shop sells 31 L 392 mL juice everyday.

7.

	kg			g		
Weight of wheat =	3	4	5	2	3	4
Weight of wheat distributed = –	1	9	9	5	6	4
Weight of wheat left =	1	4	5	6	7	0

Thus, 145 kg 670 g wheat is left.

8. Weight of Anaya = 64 kg 430 g
Weight of Rohan = 12 kg 65 g + 64 kg 430 g
∴ Weight of Rohan =

	kg		g		
	6	4	4	3	0
+	1	2		6	5
	7	6	4	9	5

Thus, Rohan's weight is 76 kg 495 g.

9. Weight of box with apples = 270 kg 500 g
Weight of box with oranges = 192 kg 500 g
Weight of box with guavas = 245 kg
Total weight of the fruits together = 690 kg
∴ Weight of the box alone = (Weight of box with apples + weight of the box with oranges + weight of the box with guavas – Total weight of fruits together) ÷ 3 (∵ The weight of the box is included in the weight of the fruits)
∴ Weight of the box alone = (270 kg 500 g + 192 kg 500 g + 245 kg – 690 kg) ÷ 3
= (708 – 690 kg) ÷ 3 = 18 kg ÷ 3 = 6 kg
Thus, the weight of box alone is 6 kg.

10. (*a*) 8586 m = 8000 m + 586 m = 8 km 586 m
(*b*) 7816 m = 7000 m + 816 m = 7 km 816 m
(*c*) 7716 m = 7000 m + 716 m = 7 km 716 m
(*d*) 7242 m = 7000 m + 242 m = 7 km 242 m
(*e*) 6992 m = 6000 m + 992 m = 6 km 992 m

Challenge Question (Page 183)

Anaya's height = 1720 mm = 1720 ÷ 10 cm
= 172 cm
Siya's height = 3 m 40 cm – 172 cm
= 340 cm – 172 cm = 168 cm
Rehan's height = 168 cm + 2 cm 4 mm
= 170 cm 4 mm
Maya's height = 170 cm 4 mm + 4 cm 2 mm
= 174 cm 6 mm
Ascending order: 168 cm < 170 cm 4 mm < 172 cm < 174 cm 6 mm

CHAPTER 10: PERIMETER AND AREA

Practice Time 10A

1. (*a*) Perimeter of figure (*a*)
= 6 units + 7 units + 6 units + 7 units = 26 units.

(*b*) Perimeter of figure (*b*)
= 2 units + 2 units + 4 units + 6 units + 6 units + 8 units = 28 units.

(*c*) Perimeter of figure (*c*)
= 4 units + 1 unit + 1 unit + 6 units + 1 unit + 1 unit + 4 units + 1 unit + 1 unit + 6 units + 1 unit + 1 unit = 28 units.

(*d*) Perimeter of figure (*d*)
= 6 units + 3 units + 2 units + 4 units + 2 units + 4 units + 2 units + 3 units = 26 units.

(*e*) Perimeter of figure (*e*)
= 1 unit + 1 unit + 1 unit + 1 unit + 1 unit + 1 unit + 1 unit + 1 unit + 2 units + 3 units + 6 units + 3 units + 2 units + 4 units = 28 units.

(*f*) Perimeter of figure (*f*)
= 2 units + 2 units + 2 units + 2 units + 2 units + 2 units + 2 units + 2 units + 2 units + 2 units + 2 units + 2 units = 24 units.

2. (*a*) Perimeter of the given figure
= Sum of the lengths of its sides
= 5 cm + 6 cm + 8 cm = 19 cm.

(*b*) Perimeter of the given figure
= Sum of the lengths of its sides
= 8 cm + 5 cm + 8 cm + 5 cm = 26 cm.

(*c*) Perimeter of the given figure
= Sum of the lengths of its sides
= 4 cm + 4 cm + 4 cm + 4 cm = 16 cm.

(*d*) Perimeter of the given figure
= Sum of the lengths of its sides
= 9 cm + 7 cm + 10 cm + 5 cm = 31 cm.

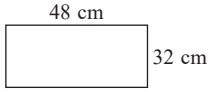
(*e*) Perimeter of the given figure
= Sum of the lengths of its sides
= 5 cm + 3 cm + 3 cm + 5 cm + 4 cm
= 20 cm.

(*f*) Perimeter of the given figure
= Sum of the lengths of its sides.
= 6 cm + 3 cm + 5 cm + 4 cm + 3 cm + 4 cm.
= 25 cm.

3. Length of each side = 4 cm
Number of equal sides = 6
Perimeter = 4 × 6 = 24 cm.

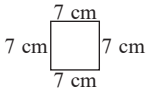
4. Length of two equal sides of a triangle = 15 cm.
Length of 3rd side = 18 cm.
Perimeter of triangle = Sum of lengths of its sides.
15 cm + 15 cm + 18 cm = 48 cm.

5. Length of a rectangle (*l*) = 48 cm.
Breadth of a rectangle (*b*) = 32 cm.



We know that, perimeter of a rectangle = 2(*l* + *b*)
= 2(48 + 32) cm = 2 × 80 cm = 160 cm.
Thus, the perimeter of the rectangle is 160 cm.

6. Length of each side of the square = 7 cm.
We know that, perimeter of the square
= 4 × side = 4 × 7 cm = 28 cm.



Thus, the perimeter of the square is 28 cm.

Challenge Question (Page 190)

Perimeter of 5-sided shape = 76 cm
Three of its sides are 12 cm, 11 cm and 15 cm
So, the measure of remaining sides are 76 – (12 + 11 + 15) = 38 cm
Thus, the remaining sides may be (18 cm, 20 cm), (10 cm, 28 cm), (5 cm, 33 cm), etc. (Answer may vary).

Think Tank (Page 192)

1. Do it yourself.

2. (*a*) False, as two squares may have same or different area.

(*b*) False, as If you double both dimensions, the new area becomes
2 L × 2 B = 4 (L × B) = 4A *i.e.*, 4 times the original area, not double.

(*c*) False, as rectangles can have the same area but different perimeters.

Practice Time 10B

1. Number of unit squares in the figure (A) = 12
Therefore, area of the figure (A) = 12 sq. cm
Number of unit squares in the figure (B) = 4
Therefore, area of the figure (B) = 4 sq. cm
Number of unit squares in the figure (C) = 6
Therefore, area of the figure (C) = 6 sq. cm
Number of unit squares in the figure (D) = 16
Therefore, area of the figure (D) = 16 sq. cm
Number of unit squares in the figure (E) = 16
Therefore, area of the figure (E) = 16 sq. cm
Number of unit squares in the figure (F) = 15
Therefore, area of the figure (F) = 15 sq. cm

Number of unit squares in the figure (G) = 10
Therefore, area of the figure (G) = 10 sq. cm

2. (*a*) Number of squares = 5
So, the area of square is 5 sq. units.

(*b*) Here, number of complete squares = 4
Number of half squares = 8
Since, 2 half squares make 1 complete square.
Thus, the area of the figure = 4 + 4 = 8 sq. units.

(*c*) Here, number of complete squares = 2
Number of half squares = 4
Since, 2 half squares make 1 complete square.
Thus, the area of the figure = 2 + 2 = 4 sq. units.

(*d*) Here, number of complete squares = 3
Number of half squares = 6
Since, 2 half squares make 1 complete square.
Thus, the area of the figure = 3 + 3 = 6 sq. units.

(*e*) Here, number of complete squares = 9
Number of half squares = 8
Since, 2 half square make 1 complete square.
Thus, the area of the figure = 9 + 4 = 13 sq. units.

(*f*) Here, number of complete squares = 5
Number of half squares = 4
Since, 2 half square make 1 complete square.
Thus, the area of the figure = 5 + 2 = 7 sq. units.

Chapter Assessment

1. (*a*) (*iii*) Length of rectangle (l) = 13 cm
Breadth of rectangle (b) = 5 cm
Perimeter of rectangle = 2 (l + b)
= 2 (13 + 5) cm
Perimeter of rectangle = 2 × 18 cm
= 36 cm

(*b*) (*iii*) Length of rectangular garden (l) = 135 m
Breadth of rectangular garden (b) = 87 m
Perimeter of rectangular garden
= 2(l + b)
= 2(135 + 87) cm
= 2 × 222 cm = 444 cm

(*c*) (*i*) Side of a square = 7 cm
Perimeter of square = 4 × side
= 4 × 7 cm
= 28 cm

(*d*) (*ii*) Length of 1st side = 15 m
Length of 2nd side = 16 m
Perimeter of triangle = 47 m
Perimeter of triangle = Sum of its three sides
47 m = 15 m + 16 m + third side
47 m = 31 m + third side
Third side = 47 m – 31 m = 16 m

(*e*) (*i*) Number of complete squares = 12 m
So, the area of square = 12 sq. units

2. (*a*) Perimeter of the given figure
= Sum of lengths of its sides.
5 cm + 7 cm + 8 cm = 20 cm

(*b*) Perimeter of the given figure
= Sum of lengths of its sides.
6 cm + 6 cm + 6 cm = 18 cm

(*c*) Perimeter of the given figure
= Sum of lengths of its sides.
9 cm + 9 cm + 7 cm = 25 cm

(*d*) Perimeter of the rectangle
= 2 × (l + b) = 2 × (10 + 2) = 2 × 12 = 24 cm

(*e*) Perimeter of the square
= 4 × side = 4 × 4 = 16 cm

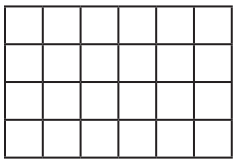
(*f*) Perimeter of the given figure
= Sum of lengths of its sides.
5 cm + 5 cm + 5 cm + 5 cm = 20 cm

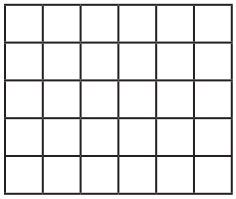
3. (*a*) Perimeter of given figure
= 2 cm + 4 cm + 2 cm + 4 cm = 12 cm.
Number of squares = 8.
So, the area of squares is 8 sq. cm.
∴ P = 12 cm and A = 8 sq. cm.

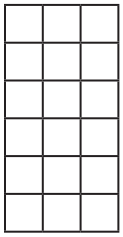
(*b*) Perimeter of given figure
= 4 cm + 4 cm + 4 cm + 4 cm
= 16 cm.
Number of squares = 16.
So, the area of squares is 16 sq. cm.
∴ P = 16 cm, A = 16 sq. cm.

(*c*) Perimeter of the given figure
= 3 cm + 3 cm + 1 cm + 1 cm + 1 cm + 1 cm + 1 cm + 1 cm = 12 cm
Number of squares = 6
So, the area of square is 6 sq. cm
∴ P = 12 cm, A = 6 sq. cm.

(*d*) Perimeter of the given figure
= 2 cm + 1 cm + 1 cm + 1 cm + 1 cm + 2 cm + 2 cm + 4 cm = 14 cm
Number of squares = 9
So, the area of square is 9 sq. cm
∴ P = 14 cm, A = 9 sq. cm.

4. (*a*) 
Number of squares = 24
So, the area of square is 24 sq. cm

(*b*) 
Number of squares = 30
So, the area of square is 30 sq. cm

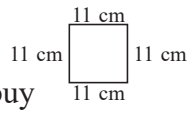
(*c*) 
Number of squares = 18
So, the area of square is 18 sq. cm

5. (*a*) Here, number of complete squares = 8
Number of half squares = 20
Since, 2 half squares make 1 complete square.
Thus, the area of the figure = 8 + 10 = 18 sq. cm

(*b*) Here, number of complete squares = 5
Number of half squares = 20
Since, 2 half squares make 1 complete square.
Thus, the area of the figure = 5 + 10 = 15 sq. cm

6. Length of each road is 250 m.
Perimeter of the given figure
= 250 m + 250 m + 250 m = 750 m.
Thus, the required length of the fence is 750 m

7. Side of squared shape handkerchief = 11 cm



Length of the lace Riya needs to buy
= 11 cm + 11 cm + 11 cm + 11 cm = 44 cm.

8. Length of rectangular plot = 12 m
Breadth of rectangular plot = 10 m
Perimeter of rectangular plot = 2(12 + 10) m
= 2 × 22 m = 44 m
Required length of the fence
= 44 × 2 = 88 m.

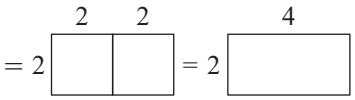
9. Perimeter of given square = 32 cm
or Perimeter of a square = 4 × side

$\therefore \quad 32 \text{ cm} = 4 \times \text{side} \quad \text{or} \quad \text{side} = \frac{32}{4} = 8 \text{ cm}$

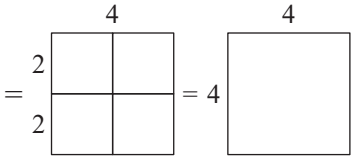
On cutting a square into two halves, i.e., $= \frac{8}{2} = 4$ cm, we get, breadth = 4 cm and length = 8 cm
Therefore, perimeter of one rectangle = sum of its four sides = 4 cm + 4 cm + 8 cm + 8 cm = 24 cm.

Challenge Question (Page 196)

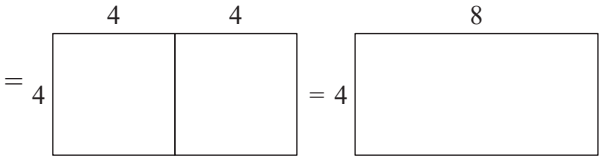
Solve this in reverse order.
Given, final square is of one side = 2 cm
Step 1. On unfolding, the next rectangle



Step 2. On unfolding, the length and width of square



Step 3. At left width on unfold, the length and width of rectangle



So, area of piece of paper = 4 × 8 = 32 sq. cm

CHAPTER 11 : TIME

Let's Recall

1. (*a*) 2 hours = 120 minutes
(*b*) 1 day = 24 hours
(*c*) 20 weeks = 140 days
(*d*) 3 years = 1095 days

2. (*a*) - (*iii*) (*b*) - (*ii*)
(*c*) - (*iv*) (*d*) - (*i*)

Practice Time 11A

1. (*b*) 12:13, 13 minutes past 12, 47 minutes to 1
(*c*) 5:30, 30 minutes past 5, 30 minutes to 6
(*d*) 2:40, 40 minutes past 2, 20 minutes to 3
(*e*) 7:16, 16 minutes past 7, 44 minutes to 8
(*f*) 9:15, 15 minutes past 9, 45 minutes to 10
(*g*) 6:45, 45 minutes past 6, 15 minutes to 7
(*h*) 11:10, 10 minutes past 11, 50 minutes to 12

2. Do it yourself.

Practice Time 11B

1. 50 seconds → 10 seconds → 25 seconds

Practice Time 11C

1. (*a*) 03:34 hours (*b*) 16:50 hours
(*c*) 19:30 hours (*d*) 10:00 hours
(*e*) 00:00 hours or 24:00 hours
(*f*) 18:34 hours

2. (*a*) 4:20 p.m. (*b*) 6:57 p.m.
(*c*) 8:20 p.m. (*d*) 4:30 a.m.
(*e*) 10:00 p.m. (*f*) 8:08 a.m.

3. (*a*) Renu wakes up at 06:45 a.m.
(*b*) A bus leaves ISBT at 2:45 p.m.
(*c*) A hawker starts distributing newspapers at 05:35 a.m.
(*d*) A match starts at 5:30 p.m.
(*e*) Golu reached Agra at 8:10 p.m.

4. To write the 12-hour clock format, that is, p.m. time into 24-hour clock format, we just add 12.
So, we read and write 4:30 p.m. in the 12-hour clock format and 16:30 hours or 1630 hours in the 24-hour clock format.

Practice Time 11D

1. (*a*) Since, 1 hour = 60 minutes
So, 6 hours = 6 × 60 minutes
= 360 minutes

(*b*) Since, 1 hour = 60 minutes
So, 8 hours = 8 × 60 minutes
= 480 minutes
So, 8 hours 30 minutes
= 480 minutes + 30 minutes
= 510 minutes.

(*c*) Since, 1 hour = 60 minutes
and 1 minute = 60 seconds
So, 1 hours = 60 × 60 seconds
= 3600 seconds
So, 5 hours = 5 × 3600 seconds
= 18000 seconds.

(*d*) Since, 1 minute = 60 seconds
So, 18 minutes = 18 × 60 seconds
= 1080 seconds

(*e*) Since, 1 minute = 60 seconds
So, 28 minutes = 28 × 60 seconds
= 1680 seconds
So, 28 minutes 15 seconds
= 1680 seconds + 15 seconds
= 1695 seconds

(*f*) Since, 1 hour = 60 minutes,
1 minute = 60 seconds
So, 1 hour = 60 × 60 seconds
= 3600 seconds
So, 14 hours = 14 × 3600 seconds
= 50400 seconds
and 1 minute = 60 seconds
So, 48 minutes = 48 × 60 seconds
= 2880 seconds
Therefore, 14 hours 48 minutes
= 50400 seconds + 2880 seconds
= 53280 seconds

2. (*a*) Since, 60 seconds = 1 minute
So, 216 seconds
= (216 ÷ 60) minutes
Thus, 216 seconds = 3 minutes 36 seconds.

$$\begin{array}{r} 60\overline{)\,216\,(3} \\ -\,180 \\ \hline 036 \end{array}$$

3 → minutes; 036 → seconds

(*b*) Since, 60 seconds = 1 minute
So, 2448 seconds
= (2448 ÷ 60) minutes
Thus, 2448 seconds
= 40 minutes 48 seconds.

$$\begin{array}{r} 60\overline{)\,2448\,(40} \\ -\,240\downarrow \\ \hline 0048 \end{array}$$

40 → minutes; 0048 → seconds

(*c*) 3860 seconds
= (3860 ÷ 60) minutes
= 64 minutes 20 seconds
Further, 64 minutes
= (64 ÷ 60) hours
= 1 hour 4 minutes.
Thus, 3860 seconds
= 1 hour 4 minutes 20 seconds

$$\begin{array}{r} 60\overline{)\,3860\,(64} \\ -\,360\downarrow \\ \hline 260 \\ 240 \\ \hline 20 \end{array}$$

64 → minutes; 20 → seconds

$$\begin{array}{r} 60\overline{)\,64\,(1} \\ -\,60 \\ \hline 04 \end{array}$$

1 → hour; 04 → minutes

(*d*) Since, 60 minutes = 1 hour

So, 120 minutes

= (120 ÷ 60) hours

= 2 hours

$$60\overline{)120}(2 \rightarrow \text{hours}$$
$$\underline{-120}$$
$$0$$

Practice Time 11E

1. (*a*) Write the time in the columns and then add by following the given steps.

Step 1. Add the seconds.

38 seconds + 17 seconds

= 55 seconds

Step 2. Add the minutes.

35 minutes + 18 minutes = 53 minutes

	min	s
	(1)	(1)
	3 5	3 8
+	1 8	1 7
	5 3	5 5

Thus, the sum is 53 minutes 55 seconds

(*b*)

	min	s
	2 4	1 8
+	0 5	2 0
	2 9	3 8

Thus, 24 minutes 18 seconds + 5 minutes 20 seconds = 29 minutes 38 seconds.

(*c*)

	min	s
	(1)	
	2 8	3 8
+	2 9	4 0
	5 7	7 8

Thus, 27 minutes 38 seconds + 29 minutes 40 seconds = 57 minutes 78 seconds, i.e., 58 minutes 18 seconds.

(*d*)

	min	s
	1 5	3 0
+	3 0	3 5
	4 5	6 5

Thus, 15 minutes 30 seconds + 30 minutes 35 seconds = 45 minutes 65 seconds, i.e., 46 minutes 5 seconds.

(*e*) Write the time in the columns and then add by following the given steps.

Step 1. Add the seconds.

10 seconds + 20 seconds = 30 seconds

Step 2. Add the minutes.

35 minutes + 16 minutes = 51 minutes

Step 3. Add the hours.

16 hours + 25 hours = 41 hours

	h	min	s
	(1)	(1)	
	1 6	3 5	1 0
+	2 5	1 6	2 0
	4 1	5 1	3 0

Thus, the sum is 41 hours 51 minutes 30 seconds or 1 day 17 hours 51 minutes 30 seconds.

(*f*)

	h	min	s
		(1)	
	1 0 0	4 5	5 6
+	0 0 5	1 9	1 2
	1 0 5	6 4	6 8

Thus, 100 hours 45 minutes 56 seconds + 5 hours 19 minutes 12 seconds

= 105 hours 64 minutes 68 seconds

= 106 hours 5 minutes 8 seconds

or 4 days 10 hours 5 minutes 8 seconds

2. (*a*)

	h	min
	2 5	2 4
–	1 0	0 9
	1 5	1 5

Thus, 25 hours 24 minutes – 10 hours 9 minutes = 15 hours 15 minutes.

(b) Write the time in the vertical columns and then subtract by following the given steps.

Step 1. Subtract the minutes.

Since, 38 minutes < 40 minutes.

So, regroup minutes and hours.

That is, borrow 1 hour = 60 minutes to minutes

So, 24 hours 38 minutes

= 23 hours 60 minutes + 38 minutes

= 23 hours 98 minutes.

Now, 98 minutes – 40 minutes = 58 minutes.

Step 2. Subtract the hours.

23 hours – 9 hours = 14 hours

	h	min
	(23)	(98)
	~~24~~	~~38~~
–	09	40
	14	58

Thus, the difference is equal to 14 hours 58 minutes.

(*c*)

	min	s
	(9)	(66)
	~~10~~	~~06~~
–	05	26
	4	40

Thus, 10 minutes 40 seconds – 5 minutes 26 seconds = 4 minutes 40 seconds.

(*d*)

	h	min	s
		(99)	
	(23)	~~(39)~~	(70)
	~~24~~	~~40~~	~~10~~
–	04	56	16
	19	43	54

Thus, 24 minutes 40 minutes 10 seconds – 4 hours 56 minutes 16 seconds = 19 hours 43 minutes 54 seconds.

3. Time taken by Ram to travel by one bus = 15 hours 20 minutes

Time taken by him in travelling by another bus = 13 hours 54 minutes

Time taken by him in travelling by both the buses = 15 hours 20 minutes + 13 hours 54 minutes = 28 hours 74 minutes = 29 hours 14 minutes or 1 day 5 hours 14 minutes

	h		min	
	1	5	2	0
+	1	3	5	4
	2	8	7	4

4.

	min	s
		(1)
Time taken in making lunch =	42	12
Time taken in making dinner = +	53	28
Total time spent cooking =	95	40

Thus, 95 minutes 40 seconds or 1 hour 35 minutes 40 seconds is spent cooking.

5. Time taken by Ajay in completing his homework = 1 hour 10 minutes 20 seconds

Time taken by Putul in completing her homework = 55 minutes 20 seconds

Difference between time taken in completing the homework

	h	min	s
	(0)	(70)	
	~~1~~	~~10~~	20
–	0	55	20
	0	15	0

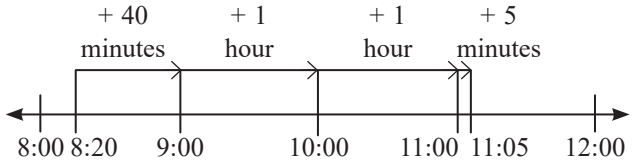
Thus, Ajay takes 15 minutes more to complete his homework.

Practice Time 11F

1.

	Starting time	Finishing time	Duration
(*a*)	7:25 a.m.	9:15 a.m.	1 hour 50 minutes
(*b*)	11:10 p.m.	12:20 a.m.	1 hour 10 minutes
(*c*)	5:45 a.m.	6:35 a.m.	50 minutes
(*d*)	8:10 p.m.	11:35 p.m.	3 hours 25 minutes
(*e*)	10:55 a.m.	12:16 p.m.	1 hour 21 minutes

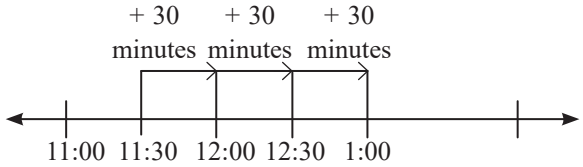
2.



Starting time	Reaching time	Duration
8:20 a.m.	11:05 a.m.	2 hours 45 minutes

Thus, the aeroplane took 2 hours 45 minutes to reach Delhi from Chennai.

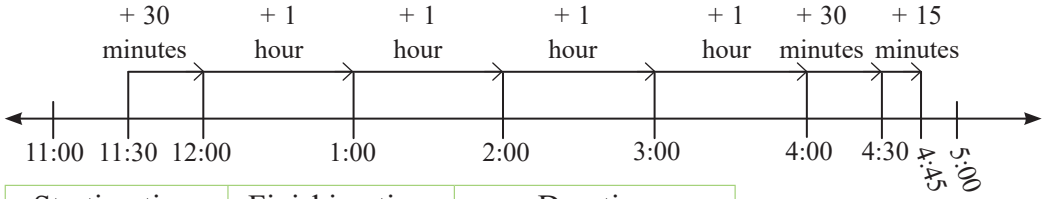
3.



Starting time	Finishing time	Duration
11:30 a.m.	1:00 p.m.	1 hour 30 minutes

Thus, the match was played for 1 hour 30 minutes.

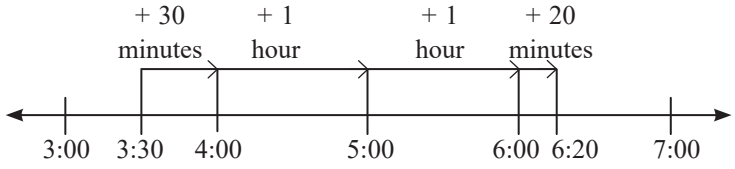
4.



Starting time	Finishing time	Duration
11:30 a.m.	4:45 p.m.	5 hours 15 minutes

Thus, 5 hours 15 minutes was the duration of the event.

5.



Starting time	Duration	Finishing time
3:30 p.m.	2 h 50 min	6:20 p.m.

Thus, at 6:20 p.m. she finishes her project.

Fast Check (Page 212)

1. April is the 4th month of the year.
2. A leap year has 366 days.
3. September has 30 days.
4. January, March, May, July, August, October and December, *i.e.*, 7 months have 31 days.

Challenge Question (Page 213)

Divide the number of days by 7 to find out how many weeks there are in 100 days,

$100 \div 7 \Rightarrow Q = 14$ and $R = 2$

Since the remainder is 2, it means that after 14 weeks, the day will be two days away from Wednesday. Counting two days from Wednesday, we get Friday.

Therefore, the day will be Friday in 100 more days, starting today.

Practice Time 11G

1. (*a*) 4 May is the first Sunday of May.
(*b*) 17 February is the 3rd Monday in February.
(*c*) 30 July is last Wednesday in July.
(*d*) Saturday is the last day of the third week after May 3.
(*e*) Friday is the day after 5 days of December 7.
(*f*) Monday is the day before one week of June 16.

2. (*a*) Since, 7 days = 1 week
So, 42 days
= (42 ÷ 7) weeks
= 6 weeks.
Thus, 42 days = 6 weeks.

$7\overline{)42}\,(6 \rightarrow$ Weeks
$-\ 42$
$0 \rightarrow$ day

(*b*) Since, 7 days = 1 week
So, 105 days
= (105 ÷ 7) weeks.
= 15 weeks.

$7\overline{)105}\,(15 \rightarrow$ Weeks
$-\ 7\downarrow$
35
$-\ 35$
$0 \rightarrow$ day

(*c*) Since, 12 months = 1 year.
So, 144 months = (144 ÷ 12) years.
= 12 years.
Thus, 144 months = 12 years.

(*d*) Since, 12 months = 1 year.
So, 72 months = (72 ÷ 12) years.
= 6 years.
Thus, 72 months = 6 years.

(*e*) Since, 4 weeks = 1 month
So, 12 weeks = (12 ÷ 4) months.
= 3 months.
Thus, 12 weeks = 3 months.

(*f*) Since, 365 days = 1 year
So, 730 days = (730 ÷ 365) years.
= 2 years.
Thus, 730 days = 2 years.

3. (*a*) Since, 1 month = 30 days.
So, 3 months 7 days = 3 × 30 + 7 days
= 90 × 7 days = 97 days.
Thus, 3 months 7 days = 97 days

(*b*) 4 months 23 days = 4 × 30 + 23 days.
= 120 + 23 days = 143 days.

(*c*) Since, 1 week = 7 days.
So, 7 weeks 5 days = 7 × 7 + 5 days.
= 49 + 5 days = 54 days.

(*d*) 9 weeks 4 days = 9 × 7 + 4 days.
= 63 + 4 days = 67 days.

(*e*) 2 weeks 1 days = 2 × 7 + 1 days.
= 14 + 1 days = 15 days.

(*f*) 7 months 20 days = 7 × 30 + 20 days.
= 210 + 20 days = 230 days.

4. (*a*) Since, 1 year = 12 months.
So, 3 years 4 months = 3 × 12 + 4 months
= 36 months + 4 months = 40 months

(*b*) 4 years 11 months = 4 × 12 + 11 months
= 48 + 11 months
= 59 months

(*c*) 6 years 10 months = 6 × 12 + 10 months
= 82 months

(*d*) 7 years 4 months = 7 × 12 + 4 months
= 88 months

(*e*) 1 year 8 months = 12 + 8 months = 20 months

(*f*) 5 years 1 month = 5 × 12 + 1 months
= 61 months

5. March has 31 days
So, number of days after 6th in March
= 31 – 6 = 25 days
Number of days in April = 30 days
Number of days in May = 31 days
Number of days in June before 10th
= 10 – 1 = 9 days
Total number of days = 25 + 30 + 31 + 9 = 95 days
Thus, the total number of days between 6th March and 10th June is 95 days.

6. December has 31 days.
So, 18 December to 31 December = 31– 18 + 1 = 14 days.
His vacation will last for 18 days.
i.e., the school will be closed in January for
18 – 14 = 4 days.
Thus, Sanket's school will reopen on 5th January.

7. To find the total number of days between June 26, 2025, and December 25, 2025, we sum the remaining days in the starting month, the full days in the intervening months, and the days in the final month.
June: 4 days (June 27, 28, 29, 30)
July: 31 days
August: 31 days
September: 30 days
October: 31 days
November: 30 days
December: 24 days
So, total number of days = 4 + 31 + 31 + 30 + 31 + 30 + 24 = 181
Thus, there were 181 days between 26th June 2025 and 25th December 2025.

8.

	years		months		days
Swastik birthday = 11 July 2007	2007	-	7	-	11
+ His present age = 14 years 1 month 5 days	14	-	1	-	5
	2021		**8**		**16**

∴ Current date is 16-8-2021 or 16 August 2021.

Chapter Assessment

1. (*a*) (*iii*) 8 hours 50 minutes = 8 × 60 + 50 minutes
= 480 + 50 minutes = 530 minutes
(*b*) (*iv*) 1 hour = 60 minutes
1 minute = 60 seconds
1 hour = 60 × 60 seconds
1 hour = 3600 seconds.
(*c*) (*ii*) Since, 1 day = 24 hours, 1 hour = 60 minutes
So, the number of minutes in a day = 24 × 60
(*d*) (*i*) 8 days 8 hours = 8 × 24 + 8 hours
= 200 hours
(*e*) (*i*) 3 hours 30 minutes before 12 noon
= 8:30 a.m.

	h	min
	(11)	(60)
	~~12~~	~~:00~~
–	3	:30
	8	:30

2. Time taken by an athlete to complete a race
= 11 minutes 38 seconds.
He breaks the world record by 48 seconds.

	min	s
	(1)	(1)
	11	38
+	0	48
	11	**86**

World record time = 11 minutes 38 second + 48 seconds = 12 minutes 26 seconds.
Thus, the world record to complete a 5000 m race was 12 minutes 26 seconds.

3. 2 hours 25 minutes before 6:10 p.m. = 6 hours 10 minutes – 2 hours 25 minutes = 3 hours 45 minutes, *i.e.*, 3:45 p.m.

	h	min
	(5)	(70)
	~~6~~	~~10~~
–	2	25
	3	**45**

4. Isha's sleeping hours = 8 hours 45 minutes
Isha's waking time = 6:30 am
Isha go to bed 8 hours 45 minutes before 6:30 am
Time from 12 midnight to 6:30 am = 6 hours 30 minutes
∴ Remaining time = 8 hours 45 minutes – 6 hours 30 minutes = 2 hours 15 minutes
∴ Isha go to bed = 2 hours 15 minutes before 12 midnight
= 12 hours – 2 hours 15 minutes
= 9:45 pm

5. Gyan went to a movie at 7:15 p.m.
He returned after 3 hours 15 minutes
∴ Time when he returned
= 7:15 + 3 hours 15 minutes
Thus, Gyan returned from movie at 10:30 p.m.

	h	min
	7	15
+	3	15
	10	30

6. Time taken by Jasmin for breakfast = 25 minutes.
Time taken by her for lunch = 30 minutes.
Time taken by her for dinner = 24 minutes.

Total time she spent eating
= (25 + 30 + 24) minutes = 79 minutes
i.e., 1 hour 19 minutes.
Thus, she spent 1 hour 19 minutes eating.

7. Anaya went to play at 4:10 p.m.
Anaya plays for 2 hours 15 minute daily.
= 1 hour + 1 hour + 15 minutes

Starting time	Duration	Finishing time
4:10 p.m.	2 hours 15 minutes	6:25 p.m.

Thus, Anaya should return at 6:25 p.m.

8. Number of days = 17th May to 12th July
= 31 – 16 = 15 days [∵ May has 31 days]
June has 30 days.
So, number of days from 1st June to 30th June
= 30 days.
1st July to 12 July = 12 days.
Total days spent on the trip = (15 + 30 + 12) days.
= 57 days.
Thus, Rohan's family spent 57 days on the trip.

Mental Maths (Page 217)

Team	A	B	C	D
Round-1	1 h 45 min 10 s	1 h 55 min 19 s	2 h 39 min 10 s	1 h 49 min 36 s
Round-2	2 h 14 min 53 s	2 h 15 min 10 s	2 h 55 min 19 s	2 h 10 min 26 s
Total Time	4 h 3 s	4 h 10 min 29 s	5 h 34 min 29 s	4 h 2 s
Rank	2nd	3rd	4th	1st

CHAPTER 12 : MONEY

Let's Recall

1. Siya saved in the first week
= ₹20 + ₹10 + ₹2 = ₹32
Rohan saved in the first week
= ₹20 + ₹5 + ₹2 + ₹1 + ₹0.50 = ₹28.50
Thus, Rohan saved ₹28.50 in the first week.

2. Siya saved in the second week
= ₹20 + ₹20 + ₹2 + ₹0.50 = ₹42.50 = 4250 p
[∵ ₹1 = 100 p]
Thus, Siya saved 4250 p in week 2.

3. Total savings of Siya in one month
= ₹20 + ₹10 + ₹2 + ₹20 + ₹20 + ₹2 + ₹0.50 + ₹50 + ₹5 + ₹2 + ₹1 + ₹0.50 + ₹100 = ₹233
₹233 = Rupees two hundred thirty-three.
Total savings of Rohan in one Month
= ₹20 + ₹5 + ₹2 + ₹1 + ₹0.50 + ₹20 + ₹20 + ₹1 + ₹50 + ₹20 + ₹2 + ₹0.50 + ₹200 = ₹342
₹342 = Rupees three hundred forty-two.

4. Siya saved = ₹233
Rohan saved = ₹342
Thus, Rohan saved more money.

Think Tank (Page 221)

₹500 × 100 = ₹50,000

Practice Time 12A

1. (*a*) 11 notes of ₹10 = ₹10 × 11 = ₹110
7 notes of ₹5 = ₹5 × 7 = ₹35
3 coins of ₹10 = ₹10 × 3 = ₹30
5 coins of ₹5 = ₹5 × 5 = ₹25
4 coins of ₹2 = ₹2 × 4 = ₹8
10 coins of ₹1 = ₹1 × 10 = ₹10
Total amount of money
= ₹110 + ₹35 + ₹30 + ₹25 + ₹8 + ₹10 = ₹218

(*b*) 5 notes of ₹200 = ₹200 × 5 = ₹1000
6 notes of ₹100 = ₹100 × 6 = ₹600
3 notes of ₹50 = ₹50 × 3 = ₹150
11 notes of ₹10 = ₹10 × 11 = ₹110
8 coins of ₹2 = ₹2 × 8 = ₹16
Total amount of money
= ₹1000 + ₹600 + ₹150 + ₹110 + ₹16 = ₹1876

(*c*) 2 notes of ₹200 = ₹200 × 2 = ₹400
5 notes of ₹20 = ₹20 × 5 = ₹100
19 notes of ₹10 = ₹10 × 19 = ₹190
7 notes of ₹5 = ₹5 × 7 = ₹35
Total amount of money
= ₹400 + ₹100 + ₹190 + ₹35 = ₹725

(*d*) 5 notes of ₹500 = ₹500 × 5 = ₹2500
2 notes of ₹200 = ₹200 × 2 = ₹400
10 notes of ₹10 = ₹10 × 10 = ₹100
5 coins of ₹1 = ₹1 × 5 = ₹5
Total amount of money
= ₹2500 + ₹400 + ₹100 + ₹5 = ₹3005

(*e*) 3 notes of ₹500 = ₹500 × 3 = ₹1500
7 notes of ₹200 = ₹200 × 7 = ₹1400

4 notes of ₹100 = ₹100 × 4 = ₹400
2 notes of ₹20 = ₹20 × 2 = ₹40
7 coins of ₹1 = ₹1 × 7 = ₹7
Total amount of money
= ₹1500 + ₹1400 + ₹400 + ₹40 + ₹7
= ₹3347.

2. Maya's mother had,
1 note of ₹200 = ₹200 × 1 = ₹200
2 note of ₹50 = ₹50 × 2 = ₹100
7 notes of ₹10 = ₹10 × 7 = ₹70
3 coins of ₹5 = ₹5 × 3 = ₹15
4 coins of ₹1 = ₹1 × 4 = ₹4
Total amount of money her mother has
= ₹200 + ₹100 + ₹70 + ₹15 + ₹4
= ₹389
Thus, Maya's mother has ₹389.

3. Gyan has,
3 notes of ₹200 = ₹200 × 3 = ₹600
1 note of ₹20 = ₹20 × 1 = ₹20
Total amount of money Gyan has
= ₹600 + ₹20 = ₹620
Vivan has,
2 notes of ₹100 = ₹100 × 2 = ₹200
3 notes of ₹ 50 = ₹50 × 3 = ₹150
13 coins of ₹2 = ₹2 × 13 = ₹26
Total amount of money Vivan has
= ₹200 + ₹150 + ₹26 = ₹376
Thus, Gyan has more money.

4. Siya pays,
2 notes of ₹500 = ₹500 × 2 = ₹1000
1 note of ₹100 = ₹100 × 1 = ₹100
3 notes of ₹20 = ₹20 × 3 = ₹60
5 coins of ₹5 = ₹5 × 5 = ₹25
Total amount of money Siya pays
= ₹1000 + ₹100 + ₹60 + ₹25
= ₹1185
Thus, cost of her dress is ₹1185.

5. Money Ananya has = ₹50 × 3 + ₹20 × 4 + ₹5 × 6
= ₹150 + ₹80 + ₹30 = ₹260
Cost of gift = ₹315
As, ₹315 > ₹260
So, the money she needs = ₹315 – ₹260 = ₹55.

Think Tank (Page 222)

The price of new bicycle = ₹8400.00
The price of old bicycle = ₹2,359.00
Amount of money Madhav need to pay for new bicycle = ₹8400 – ₹2359

			(9)		
		(3)	(10)	(10)	
	₹	8	4	0	0
–	₹	2	3	5	9
	₹	6	0	4	1

Thus, he needs to pay ₹6041 for new bicycle.

Practice Time 12B

1. (*a*)

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

(*b*)

			(1)	(1)	(1)	(1)	
	₹		5	3	3	. 5	0
	₹		3	5	4	. 5	6
+	₹		2	3	3	. 4	4
	₹	1	1	2	1	. 5	0

(*c*)

				(1)	(1)	(1)	
	₹	3	0	3	4	. 7	5
	₹	5	0	3	2	. 2	5
+	₹	1	3	2	3	. 0	0
	₹	9	3	9	0	. 0	0

2. (*a*) Arrange the given amounts in columns and then add as shown alongside.

		(2)	(2)	(1)	(2)		(2)
	₹	3	9	7	3	. 6	5
	₹	1	5	2	3	. 4	5
	₹	0	2	5	6	. 5	4
+	₹	1	3	6	0	. 5	6
	₹	7	1	1	4	. 2	0

Hence, the required sum = ₹7114.20

(*b*) Arrange the given amounts in columns and then add as shown alongside.

			(1)	(1)		(1)	(1)
	₹		4	5	4	2 . 9	0
	₹		4	0	5	3 . 8	3
	₹		4	4	6	2 . 0	6
+	₹		0	4	0	0 . 0	9
	₹	1	3	4	5	8 . 8	8

Hence, the required sum = ₹13458.88.

3. (*a*)

			13	14	11	
		6	3	4	1	10
	₹	7	4	5	. 2	0
–	₹	3	4	6	. 5	6
	₹	3	9	8	. 6	4

(*b*)

					13	
				5	3	10
	₹	8	5	6	. 4	0
–	₹	3	5	2	. 7	5
	₹	5	0	3	. 6	5

(*c*)

				11	9	
			4	1	10	10
	₹	4	5	2	. 0	0
–	₹	3	1	2	. 1	6
	₹	1	3	9	. 8	4

4. (*a*) Arrange the given amounts in columns and then subtract as shown alongside.

			9	9		
		1	10	10	10	
	₹	2	0	0	. 0	0
–	₹	0	4	8	6 . 0	0
	₹	1	5	1	4 . 0	0

Hence, the required difference = ₹1514.

(*b*) Arrange the given amounts in columns and then subtract as shown alongside.

				9	9	
			4	10	10	12
	₹	7	3	0	0	. 2 5
–	₹	3	2	6	7	. 7 5
	₹	4	2	3	2	. 5 0

Hence, the required difference = ₹4232.50.

(*c*) Arrange the given amounts in columns and then subtract as shown alongside.

			9	9	
		5	10	10	10
	₹	0	0	0	0
–	₹	2	7	4	5
	₹	3	2	5	5

Hence, the required difference = ₹3255.

(*d*) Arrange the given amounts in columns and then subtract as shown alongside.

				4	14	
	₹	4	0	5	4	. 9 9
–	₹	2	0	4	5	. 6 8
	₹	2	0	0	9	. 3 1

Hence, the required difference = ₹2009.31.

5.

				1	1	
Cost of a pencil =	₹	0	5	.	4	0
Cost of an eraser =	₹	0	4	.	6	5
Cost of a geometry box = +	₹	5	8	.	6	0
Money paid to the shopkeeper =	₹	6	8	.	6	5

Thus, she paid ₹68.65 to the shopkeeper.

6. Amount of money saved by Rupesh = ₹7554.75

Amount of money saved by his sister = ₹7079.70

				14		
			4	4	14	
	₹	7	5	5	4	. 7 5
–	₹	7	0	7	9	. 7 0
	₹	0	4	7	5	. 0 5

Difference in money = ₹475.05

Thus, Rupesh saved ₹475.05 more than his sister.

7.

			1	1	1	1
Cost price of biscuits =	₹	3	6	5	. 6	5
Cost price of bread =	₹	0	3	7	. 4	5
Cost price of toffees = +	₹	0	1	5	. 8	5
Total price of these items =	₹	4	1	8	. 9	5

Total amount paid to the shopkeeper = ₹500

Amount get back from shopkeeper = ₹500 – ₹418.95

			9	9	9	
		4	10	10	10	10
	₹	5	0	0	. 0	0
–	₹	4	1	8	. 9	5
	₹	0	8	1	. 0	5

Thus, the shopkeeper returned ₹81.05 to Anaya.

8.

			1	2	1	1	1
Cost of a shirt =	₹	2	6	6	3	. 7	5
Cost of a trousers =	₹	2	4	6	2	. 4	5
Cost of a pair of socks = +	₹	0	1	7	5	. 0	5
Total cost of these items =	₹	5	3	0	1	. 2	5

Total amount in her account = ₹6000

Balance left in Riya's account = ₹6000 – ₹5301.25

			9	9	9	9	
		5	10	10	10	10	10
	₹	6	0	0	0	· 0	0
–	₹	5	3	0	1	· 2	5
	₹	0	6	9	8	· 7	5

Thus, Riya has ₹698.75 left in her account after making the payment.

Practice Time 12C

1. (*a*)

		(1)	(3)	
	₹	1	4	8
×				4
	₹	5	9	2

Hence, ₹148 × 4 = ₹592

(*b*)

		(5)	(6)	(4)	
	₹	7	6	.	7	6
×						8
	₹	6	1	4	.	0	8

Hence, ₹76.76 × 8 = ₹614.08.

(*c*)

			(5)	(6)	(4)	
	₹	2	1	4	.	6	8
×						1	0
	₹	0	0	0	.	0	0
+	₹	2	1	4	6	.	8	0
	₹	2	1	4	6	.	8	0

Hence, ₹214.68 × 10 = ₹2146.80.

(*d*)

		(1)	(2)	(1)	(2)		
	₹	3	5	4	0	.	6	5
×							2	4
	₹	1	4	1	6	2	.	6	0
+	₹	7	0	8	1	3	.	0	0
	₹	8	4	9	7	5	.	6	0

Hence, ₹3540.65 × 24 = ₹84975.6.

2. (*a*)

```
6) 64.50 ( 10.75
 - 6
   045
 -  42
     030
   -  30
      0
```

Hence, ₹64.50 ÷ 6 = ₹10.75

(*b*)

```
9) 315.54 ( 35.06
 - 27
   045
 -  45
     054
   -  54
      0
```

Hence, ₹315.54 ÷ 9 = ₹35.06

(*c*)

```
12) 502.80 ( 41.90
  - 48
    022
  -  12
     108
   - 108
       0
```

Hence, ₹502.80 ÷ 12 = ₹41.90

(*d*)

```
15) 3056.10 ( 203.74
  - 30
    056
  -  45
     111
   - 105
      0060
     -  60
        0
```

Hence, ₹3056.10 ÷ 15 = ₹203.74

3. The cost of 1 kg wheat = ₹22.50

So, the cost of 15 kg wheat = ₹22.50 × 15

= ₹337.50

		(1)	(2)			
	₹		2	2	.	5	0
×	₹					1	5
		1	1	2	.	5	0
+		2	2	5	.	0	0
	₹	3	3	7	.	5	0

4. Cost of one pen drive = ₹1050.65

So, the cost of 15 pen drives = ₹1050.65 × 15

				(2)		(3)	(2)	
	₹		1	0	5	0	.	6	5
×								1	5
			5	2	5	3	.	2	5
+		1	0	5	0	6	.	5	0
	₹	1	5	7	5	9	.	7	5

Thus, the cost of 15 pen drives is ₹15759.75.

5. Cost of one bicycle = ₹5875.00 or ₹5875

So, the cost of 5 bicycles = ₹5875 × 5

			(4)	(3)	(2)	
	₹		5	8	7	5
×						5
	₹	2	9	3	7	5

Thus, the cost of 5 bicycles is ₹29375.

6. Radhika's monthly salary = ₹48550.75

So, Radhika's annual salary = ₹48550.75 × 12

			(1)	(1)	(1)		(1)	(1)	
	₹		4	8	5	5	0	.	7	5
×									1	2
			9	7	1	0	1	.	5	0
+		4	8	5	5	0	7	.	5	0
	₹	5	8	2	6	0	9	.	0	0

Thus, Radhika's annual salary is ₹582609.

7. Cost of 10 kg rice = ₹650.00 or ₹650

So, the cost of 1 kg rice = ₹650 ÷ 10

```
10) 650 ( 65
  - 60
    050
  -  50
     0
```

Thus, the cost of 1 kg rice = ₹65

8. Total expenditure for five children = ₹2416

Share of each child when they contribute equally = ₹2416 ÷ 5

```
5) 2416 ( 483.2
 - 20
   41
 -  40
     016
   -  15
      10
     -  10
        0
```

Thus, each child contribute ₹483.20.

9. Mona gets pocket money per week = ₹40.60

So, Mona gets pocket money daily = ₹40.60 ÷ 7

```
7) 40.60 ( 5.80
 - 35
   56
 -  56
     0
```

Thus, Mona gets ₹5.80 as daily pocket money.

10. Total amount with Iqra = ₹76

$$\begin{array}{r} 4\overline{)76}\,(19 \\ -4\downarrow \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

She has 4 times money as Prachi.

So, amount with Prachi

= ₹76 ÷ 4 = ₹19

Therefore, Iqra has more money than Prachi by

= ₹76 – ₹19 = ₹57

Thus, Iqra has ₹57 more than Prachi.

Practice Time 12D

APNA STATIONERY

Name: _____ Date: _____

Address: _____ Bill No. 125

S.No.	Items	Quantity	Rate (₹)	Amount (₹)
1.	Notebooks	6	55.40	332.40
2.	Files	8	25.00	200.00
3.	Pens	2	60.50	121.00
4.	Pencils	12	5.75	69.00
			Total =	722.40

2. (*a*) Bill for Gyan

XYZ SELLER

Name: Gyan Date: _____

Address: _____ Bill No. _____

S.No.	Items	Quantity	Rate (₹)	Amount (₹)
1.	Potato	1 kg	16.50	16.50
2.	Beetroot	1 kg	60.00	60.00
3.	Tomato	2 kg	85.00	170.00
			Total =	246.50

Amount left with Gyan = ₹500 – ₹246.50 = ₹253.50

(*b*) Bill for Siya

XYZ SELLER

Name: Siya Date: _____

Address: _____ Bill No. _____

S.No.	Items	Quantity	Rate (₹)	Amount (₹)
1.	Carrot	1 kg	40.30	40.30
2.	Tomato	2 kg	85.00	170.00
3.	Brinjal	1 kg	25.25	25.25
			Total =	235.55

Amount left with Siya = ₹350 – ₹235.55 = ₹114.45

(*c*) Bill for Meera

XYZ SELLER

Name: Meera Date: _____

Address: _____ Bill No. _____

S.No.	Items	Quantity	Rate (₹)	Amount (₹)
1.	Cucumber	1 kg	25.90	25.90
2.	Beetroot	2 kg	60.00	120.00
3.	Cauliflower	1 kg	35.10	35.10
			Total =	181.00

Amount left with Meera = ₹200 – ₹181 = ₹19.

Chapter Assessment

1. (*a*) (*ii*) Total amount

= ₹500 + ₹500 + ₹200 + ₹20 + ₹20 + ₹5 + ₹5 + ₹5 + ₹5 = ₹1260.

(*b*) (*iii*) ₹1 + ₹2 + ₹5 + ₹10 + ₹20 + ₹50 + ₹100 = ₹188

(*c*) (*iii*) Cost of a chocolate box = ₹220

So, the cost of biscuits box

= (₹220 – ₹30) = ₹190

Total cost of chocolate box and biscuits box

= ₹220 + ₹190 = ₹410

(*d*) (*i*) Cost of one pencil = ₹4.50

Cost of 18 pencils = ₹4.50 × 18 = ₹81

2. Donation for flood disaster relief fund of each student = ₹500

Anaya took 2 notes of ₹200 = 2 × ₹200 = ₹400

5 notes of ₹10 = ₹5 × ₹10 = ₹50

9 coins of ₹5 = 9 × ₹5 = ₹45

Total amount with Anaya

= ₹400 + ₹50 + ₹45 = ₹495

No, she carried ₹495 which is ₹5 less than ₹500.

3. Radhika withdrew:

Two 200-rupee notes = 2 × ₹200 = ₹400

Fifty-one 100-rupee notes = 51 × ₹100 = ₹5100

Five 500-rupee notes = 5 × ₹500 = ₹2500

Total amount withdrawn from the ATM by Radhika = ₹400 + ₹5100 + ₹2500 = ₹8000

4. Aarush borrowed from his friend = ₹3000

The very next day, he returned,

Three notes of ₹500 = 3 × ₹500 = ₹1500

and seven notes of ₹100 = 7 × ₹100 = ₹700

Total amount = ₹1500 + ₹700 = ₹2200

Amount of money Aarush owes his friend
= ₹3000 – ₹2200 = ₹800

5. During a visit to Agra,
Money spent on hotel charges = ₹4820
Money spent on transport = ₹3000
Money spent on food = ₹1850
Total money spent on trip
= ₹4820 + ₹3000 + ₹1850 = ₹9670
Money spent after discount = ₹9670 – ₹500
= ₹9170
Thus, ₹9170 is the total amount paid by Mr. Mahesh.

6. Cost of a pair of headphones = ₹1550.00
Cost of a power bank = ₹1030.00
Discount on second item = ₹225.00
Cost of power bank after discount
= ₹1030.00 – ₹225.00 = ₹805
Total cost of both the items after discount
= ₹1550.00 + ₹805.00 = ₹2355.
Thus, ₹2355 amount of money need to pay for the two items.

7. Rekha has only one 100-rupee note = ₹100
One 50-rupee note = ₹50
and three 5-rupee coins = 3 × ₹5 = ₹15
Total amount with Rekha
= ₹100 + ₹50 + ₹15 = ₹165
Rekha picks up vegetables worth ₹200
∴ More money she needs to buy the vegetables
= ₹200 – ₹165 = ₹35
Thus, she needs ₹35 more to buy those vegetables.

8. (*a*)

COLD-COLD ICE-CREAM PARLOUR

Name: Deepti Date: _____

Address: _____ Bill No. ____

S.No.	Items	Quantity	Rate (₹)	Amount (₹)
1.	Pineapple	2	60.00	120.00
2.	Almond praline	1	70.00	70.00
3.	Strawberry	3	80.00	240.00
4.	Butter-scotch	1	100.00	100.00
			Total =	530.00

(*b*)

COLD-COLD ICE-CREAM PARLOUR

Name: Chaya Date: _____

Address: _____ Bill No. ____

S.No.	Items	Quantity	Rate (₹)	Amount (₹)
1.	Chocolate	1	55.00	55.00
2.	Tutti-Frutti	3	75.00	225.00
3.	Vanilla Sugarfree	2	90.00	180.00
4.	Pineapple	1	60.00	60.00
5.	Butter-scotch	2	100.00	200.00
			Total =	720.00

9. Earning of Rajesh in an hour = ₹71
His working hours = 6 hours
His earning in 6 hours = ₹71 × 6 = ₹426
His earning in a week = 6 × ₹426 = ₹2556
(∵ Sunday is a holiday)
Thus, Rajesh earns ₹2556 in a week.

10. Cost of 8 sketch pens = ₹72.00
So, cost of 1 sketch pen = ₹72.00 ÷ 8 = ₹9
Amount of money with Neha = ₹45
Number of sketch pens that can be bought with the amount she has = ₹45 ÷ 9 = 5
Thus, 5 sketch pens can be bought with ₹45.

Mental Maths (Page 229)

1. (*c*) ₹1 = 100 paise
Number of 10-paise coins = 100 ÷ 10 = 10
Thus, ten 10-paise coins make ₹1.

2. Number of 20-rupee notes to make ₹1000
= ₹1000 ÷ ₹20 = 50
Thus, 50 twenty-rupee notes make ₹1000.

3. (*a*) ₹2.50 + ₹7.50 = ₹10 (∵ ₹10 – ₹2.50 = ₹7.50)
(*b*) ₹20 – ₹10.25 = ₹9.75

4. Cost of 1 geometry box = ₹80
Amount of money with Raman = ₹55
Amount of money he short off = ₹80 – ₹55 = ₹25
Thus, he needs ₹25 more to buy the geometry box.

5. Cost of 12 crayons packet = ₹36
So, cost of 1 crayon = ₹36 ÷ 12 = ₹3
Thus, the cost of 1 crayon is ₹3.

Challenge Question (Page 229)

Total number of coins in the donation box = 1000
Half of them are of ₹10 coins

So, number of ₹10 coins = $\frac{1000}{2} = 500$ coins

So, value of these coins = 500 × ₹10 = ₹5000
One-fourth of remaining amount are of ₹5 coins,

So, number of ₹5 coins = $\frac{1}{4}$ of 500 = 125 coins

So, value of these coins = 125 × ₹5 = ₹625
Rest coins are of ₹2. So, number of 2-rupee coins = 1000 – 500 – 125 = 375 coins
So, value of these coins = 375 × ₹2 = ₹750
Total amount in a donation box = ₹5000 + ₹625 + ₹750 = ₹6375
Thus, ₹6375 was collected in a donation box.

CHAPTER 13 : DATA HANDLING

Get Ready

Stationary	Tally Marks	Number of Items
Pencil	||||	4
Notebook	|||	3
Pen	||	2
Sharpener	||	2
Eraser	|||	3
Colour Box	||	2

Practice Time 13A

1.

Colours	Tally marks	Number of students
Red	𝍸 ||	7
Pink	𝍸 |	5
Blue	𝍸 ||	6
Green	||	2
Black	𝍸 |	5
Purple	||||	4
Yellow	|||	3
White	|	1
Brown	||	2

(*a*) 7 students like red colour.
(*b*) 3 students like yellow colour.
(*c*) White is liked by the least number of students.
(*d*) Red is liked by the most students.

2.

Name of Games	Number of Students
Football	6
Cricket	7
Badminton	10
Volleyball	2
Basketball	5

Key: = 6 students.

3.

Mode of Transport	Number of Children
School bus	9
Car	3
Walking	4
Auto-rickshaw	6
Bicycle	4

Key: = 5 students.

4. (*a*) GK books is read by the maximum number of students.
(*b*) Number of students who read comics = 90
Number of students who read storybooks = 60
Difference = 90 – 60 = 30
(*c*) Total number of students in the library
= 60 + 90 + 100 + 40 + 40 = 330

5. (*a*) 120 orange-trees are there in the orchard.
(*b*) Total number of fruit-trees in the orchard
= 15 × 4 + 15 × 6 + 15 × 10 + 15 × 8 + 15 × 5
= 60 + 90 + 150 + 120 + 75 = 495
(*c*) Number of Apple trees = 15 × 6 = 90
Number of Mango trees = 15 × 4 = 60
∴ 90 – 60 = 30 more Apple trees are there than Mango trees.
(*d*) Mango and Apple trees together is equal to the number of Guava trees in the orchard.

Practice Time 13B

1. (*a*) Taj mahal was the most popular among the students.
(*b*) 14 students visited the Taj mahal.
(*c*) Number of students visited the Red Fort = 12
Number of students visited the Zoo = 8
12 – 8 = 4 less students visited the zoo than the red fort.
(*d*) Qutub Minar was visited by the least number of students.

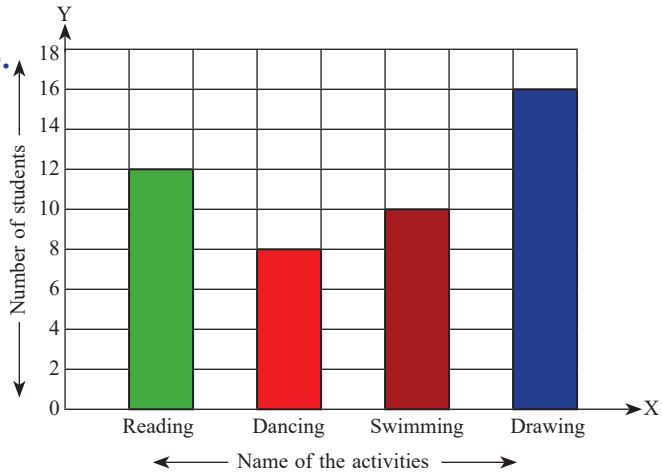
2. (*a*) Siya saved ₹300 in the month of June.

(*b*) She saved least amount of money in the month of March

(*c*) She saved most amount of money in the month of June.

(*d*) Her total savings in six months = 200 + 150 + 100 + 250 + 150 + 300 = ₹1150.

3.



Challenge Question (Page 240)

1. Maximum number of students enrolled in Art activity.

2. Minimum number of students enrolled in embroidery activity.

3. 10 + 11 = 21 students participated in dance and music.

4.

Activities	Tally marks	Number of Students
Art	𝍸 𝍸 | | | |	14
Drawing	𝍸 𝍸 | | |	13
Dance	𝍸 | | |	10
Embroidery	| | | |	4
Music	𝍸 𝍸 |	11
Yoga	𝍸 𝍸 | |	12

Chapter Assessment

1. (*a*) (*iii*) The information collected in numeric form is called data.

(*b*) (*i*) The representation of data in which pictures are used is called pictograph.

(*c*) (*ii*) Each bar in a bar graph has equal width.

2. (*a*) (2 × 4) = 8 pink kites are sold.

(*b*) Red colour kites were sold the most by the shopkeeper.

(*c*) Pink colour kites were sold the least by the shopkeeper.

(*d*) Total number of kites sold by the shopkeeper on Independence day

= 4 × 7 + 4 × 4 + 4 × 6 + 4 × 2 + 4 × 4 + 4 × 3 = 28 + 16 + 24 + 8 + 16 + 12 = 104

3.

Classes	Number of Saplings
I	🌱 🌱 🌱 🌱 🌱
II	🌱 🌱 🌱 🌱 🌱 🌱
III	🌱 🌱 🌱 🌱 🌱 🌱 🌱
IV	🌱 🌱 🌱 🌱 🌱 🌱 🌱 🌱 🌱 🌱
V	🌱 🌱 🌱 🌱 🌱 🌱 🌱 🌱
VI	🌱 🌱 🌱 🌱 🌱 🌱 🌱 🌱

Key: 🌱 = 10 Saplings

(*a*) Students of class II planted 60 saplings.

(*b*) Students of class IV planted 100 saplings.

(*c*) Class IV planted the highest number of saplings.

(*d*) Class I planted the minimum number of saplings.

(*e*) Total number of saplings planted by all the classes = 50 + 60 + 70 + 100 + 80 + 80 = 440

4. (*a*) 120 students went to the zoo.

(*b*) Class IV has 40 students that went to the zoo.

(*c*) 3 classes, i.e., class I, class II and class V less than 30 students visited the zoo.

(*d*) 25 students of class V went to the zoo.

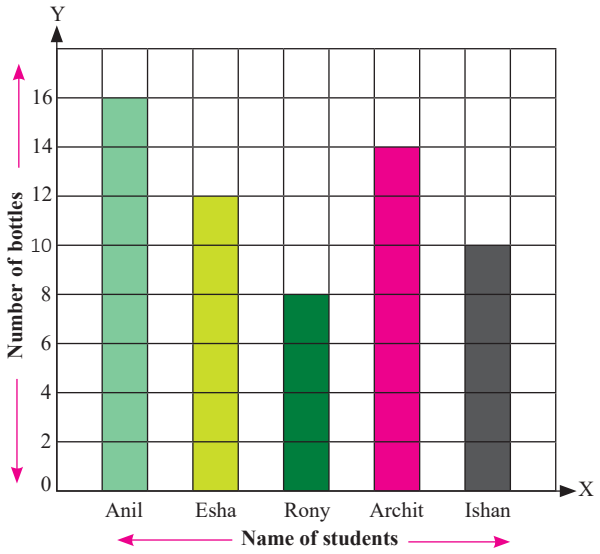
(*e*) Total students = 120

No. of students who can accommodate in a bus = 30

∴ 120 ÷ 30 = 4

Thus, 4 buses are required for all to go to the zoo.

5.



MODEL TEST PAPER - 2

A. 1. (*a*) The flag post is always perpendicular to the ground.

2. (*d*) The square has 4 line(s) of symmetry.

3. (*b*) The letter H has 2 lines of symmetry.

4. (*b*) 20 days = 20 ÷ 7 weeks = 2 weeks 6 days.

$$7\overline{)20}\,(2 \rightarrow \text{weeks}$$
$$-\,14$$
$$\overline{06} \rightarrow \text{Days}$$

5. (*b*) There are 100 years in 1 century.

6. (*a*) Diameter of a circle is two times of the radius of the circle.

7. (*c*) Perimeter of a rectangle = 2 × (length + breadth)

8. (*c*) 2 kL 3 hL = (2 × 100) daL + (3 × 10) daL = 200 daL + 30 daL = 230 daL.

9. (*d*) Tally mark $\cancel{|||}$ represents 5 observations.

10. (*b*) 1 ton = 1000 kg and 1 quintal = 100 kg
So, 3 tons 5 quintals
= (3 × 1000) kg + (5 × 100) kg
= 3000 kg + 500 kg = 3500 kg

B. 1. A brick has 12 edges.

2. A triangle has 3 sides and 3 corners.

3. A cuboidal box has 6 faces and 8 corners.

4. Diameter divides the circle into two equal halves.

5. 2, 4, 8, 14, 22, 32. [∵ 2 + 2 = 4, 4 + 4 = 8, 8 + 6 = 14, 14 + 8 = 22, 22 + 10 = 32]

6. Representation of data using rectangles is called a bar graph.

7. 11:55 p.m. can be written in 24-hour clock as 2355 hours.

8. 48 km 10 hm 7 dam = (480000 + 10000 + 700) dm = 490700 dm.

9. Radii of circle are of equal length.

10. Circumference is the distance around the circle, it is the length of the circle.

C. 1. Water carried by a water tanker = 16 kL
Water distributed in colony A = 6 kL 950 L
Water distributed in colony B
= 16 kL – 6 kL 950 L = 9 kL 50 L

	KL			L		
	1	6	.	0	0	0
–		6	.	9	5	0
		9	.	0	5	0

2. (*a*) Rohan spent on the meal = fried rice + soup = ₹75.50 + ₹110.50 = ₹186

(*b*) Zoya spent on the meal = Salad + lemon tea = ₹250.25 + ₹55.00 = ₹305.25

3. (*a*) 12 August to 23 September
August has 31 days
So, 31 – 12 = 19 days.
Ist September to 23 September = 22 days
= 41 days.

(*b*) 29 March to April 5
March has 31 days
So, 31 – 29 = 2 days.
Between 1st April to 5 April = 4 days.
Total number of days = 2 days + 4 days
= 6 days

4. Cost of one potato bun = ₹15.00
Cost of 5 buns = ₹15.00 × 5 = ₹75.00
She gave to the shopkeeper = ₹100
Money she will get back = ₹100 – ₹75 = ₹25
Thus, she will get back ₹25 from the shopkeeper.

5. Total weights of onions = 42 kg
Weight of onions sold = 22 kg 250 g
Onions left with him = 42 kg – 22 kg 250 g

	kg			g		
	4	2	.	0	0	0
–	2	2	.	2	5	0
	1	9	.	7	5	0

Thus, 19 kg 750 g onions are left with him.

6. Length of rectangular field = 112 m
Breadth of rectangular field = 85 m
Perimeter of rectangular field
$= 2(l + b) = 2(112 + 85) = 2 \times 197 \text{ m} = 394 \text{ m}$
Length of barbed wire to go 5 rounds
$= 5 \times 394 \text{ m} = 1970 \text{ m}$

7. (*a*) Name of this polygon = Quadrilateral ABCD
(*b*) Name of four vertices = A, B, C, D
(*c*) Name of four line segments
$= \overline{AB}, \overline{BC}, \overline{CD}, \overline{DA}$
(*d*) Name of all four angles = ∠ABC, ∠BCD, ∠CDA, ∠DAB.

8.

Mark Obtained by five Friends in Maths Test