CHAPTER 1

Large Numbers and Roman Numerals

Warm-up Exercise

1.

	Number Name	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
(a)	Three thousand four hundred twelve	3	4	1	2
(b)	Four thousand nine hundred twenty-one	4	9	2	1
(c)	Six thousand	6	0	0	0
(d)	Eight thousand eighteen	8	0	1	8
(e)	Nine thousand nine	9	0	0	9

2.

Periods	Thousands	Ones		
Places	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)

3. (b)

Th	H	T	O
4	8	0	9

9
0
800
4000

4. (a) 5000 + 300 + 20 + 1 = 5321

(b) 6000 + 200 + 80 + 9 = 6289

(c) 7000 + 20 + 6 = 7026

(d) 8000 + 400 + 6 = 8406

5. (a) Number = 1070

Predecessor = 1070 – 1 = 1069

Successor = 1070 + 1 = 1071

(b) Number = 2799

Predecessor = 2799 – 1 = 2798

Successor = 2799 + 1 = 2800

6. (a) 4398 < 7210 (b) 3943 > 999

(c) 7280 < 8270 (d) 1111 > 888

(e) 8592 < 9001 (f) 2438 < 3000

7. (a) Smallest → 2456, since it has less number of thousands as compare to other numbers.

Greatest → 4563, since it has more number of hundreds as compare to other numbers having 4 thousands.

(b) Smallest → 6178

Greatest → 8500

8. (a) The given digits are 2, 3, 0 and 7.

So, to form the greatest number using the given digits arrange the digits in descending order such as 7, 3, 2 and 0

Therefore, the required greatest 4-digit number = 7320

Also, to form the smallest number using the given digits arrange the digits in ascending order, except 0.

And always place the digit 0 at the second highest place such as 2, 0, 3 and 7.

Therefore, the required smallest 4-digit number = 2037

(d) The given digits are 1, 3, 0 and 0.

So, to form the greatest number using the given digits arrange the digits in descending order such as 3, 1, 0 and 0

Therefore, the required greatest 4-digit number = 3100

Also, to form the smallest number using the given digits arrange the digits in ascending order, except 0.

Place the digits 0 and 0 at the second and the third highest places such as 1, 0, 0 and 3.

Therefore, the required smallest 4-digit number = 1003

9. Five 4-digit numbers using the digits 6, 4, 0 and 7 are as follows:

6407, 4607, 7640, 7460 and 7064

(a) The required descending order= 7640, 7460, 7065, 6407, 4607

(b) The required ascending order= 4607, 6407, 7065, 7460, 7640

Practice (Page 12)

1. Ten thousand eleven

2. Ten thousand two hundred one

3. Fourteen thousand seven

Checkpoint 1A

1. (a)

Thousands		Ones		
TTh	Th	H	T	O

2. (a) 5,623 (b) 6,203

(c) 48,712 (d) 50,000

3. (a) 17,777 → Seventeen thousand seven hundred seventy-seven

(b) 29,900 → Twenty-nine thousand nine hundred

(c) 78,433 → Seventy-eight thousand four hundred thirty-three

(d) 99,001 → Ninety-nine thousand one

4. (a) 99,999 (b) 10000

5. (a) 1 more than 9999 = 1 + 9999 = 10000

(b) 1 more than 10000 = 1 + 10000 = 10001

(d) 1 more than 99998 = 1 + 99998 = 99999

6. (a) 73615; 73715; 73815

(b) 80,599; 80,699; 80,799

7. (a) 15,300; 16,300; 17,300; 18,300

(b) 30,397; 31,397; 32,397; 33,397

Practice (Page 16)

1. Complete the pattern.

1 × 10	=	10	=	1 ten
10 × 10	=	100	=	10 tens
100 × 10	=	1000	=	100 tens
1000 × 10	=	10000	=	1000 tens
10000 × 10	=	100000	=	10000 tens

Checkpoint 1B

1. Since, the smallest 6-digit number = 100000

We can see there are five zeros in the number 100000.

Thus, there are five zeros in the smallest 6-digit number.

2. (a) 1 more than 99,999 = 1 + 99,999 = 1,00,000

(b) 1 more than 1,00,000 = 1 + 1,00,000
= 1,00,001

(c) 1 more than 1,00,005 = 1 + 1,00,005
= 1,00,006

3. (a) 2,00,001; 2,00,002; 2,00,003

(b) 4,30,010; 4,30,011; 4,30,012

(c) 8,88,889; 8,88,890; 8,88,891

4. (a) 6,66,633 → Six lakh sixty-six thousand six hundred thirty-three

(b) 1,11,957 → One lakh eleven thousand nine hundred fifty-seven

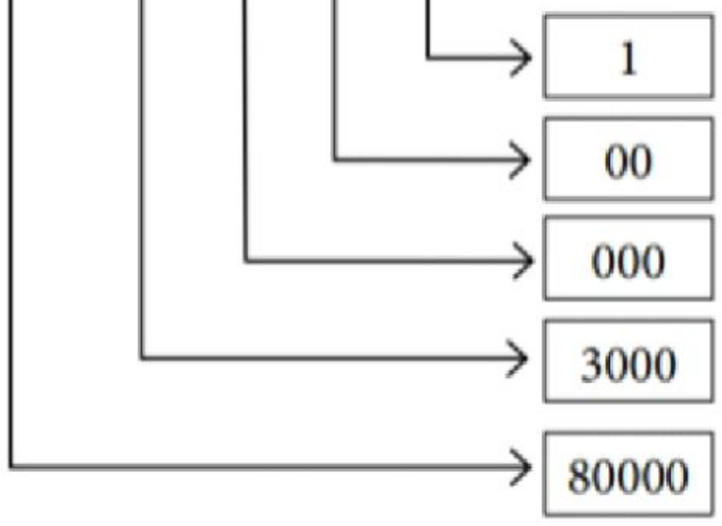
(c) 4,38,622 → Four lakh thirty-eight thousand six hundred twenty-two

5.

	L	TTh	Th	H	T	O
(a)		2	3	4	5	1
(b)	6	6	9	9	3	3
(c)	1	0	0	0	9	1
(d)	5	3	4	2	1	3

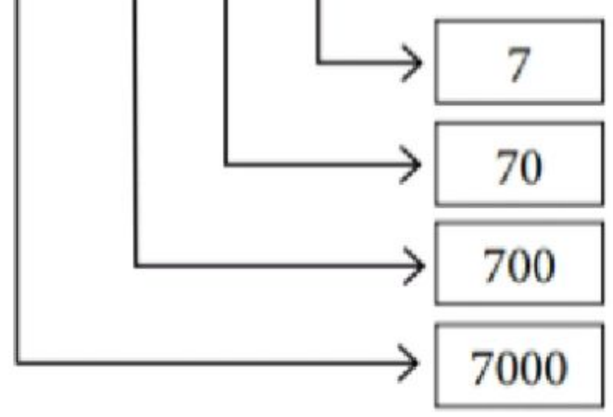
6. (b)

TTh	Th	H	T	O
8	3	0	0	1



7. The given number is 127777.

L	TTh	Th	H	T	O
1	2	7	7	7	7



8. Expanded form of:

(a) 48,573 = 40000 + 8000 + 500 + 70 + 3

(b) 98,735 = 90000 + 8000 + 700 + 30 + 5

(d) 9,02,483 = 900000 + 0 + 2000 + 400 + 80 + 3

Practice (Page 19)

First we observe the given distances between Delhi and other cities.

By observing these distances we can say that Meerut is the nearest (65 km) from Delhi, and Thiruvananthapuram is the farthest (2814 km) from the Delhi.

Checkpoint 1C

1. (a) 198 > 891 (b) 1085 < 8015

(c) 3578 > 1234 (d) 95555 < 99995

(e) 100056 < 510003 (f) 999999 > 100000

2. (a) Smallest → 195, Greatest → 8080

(b) Smallest → 15238, Greatest → 52672

(c) Smallest → 199500, Greatest → 514216

3. (a) 55678; 161718; 167950; 500000; 555876

(b) 52000; 88888; 99999; 225000; 442351

(c) 496; 5351; 18500; 678356; 927000

Practice (Page 21)

Required 5-digit number = 12321

Required 6-digit number = 123321

(Answers may vary.)

Checkpoint 1D

1. (a) For the given digits 2, 5, 7 and 8

the smallest 6-digit number = 222578 and
the greatest 6-digit number = 888752

2. (a) For the given digits 8, 7, 1, 3 and 4

the smallest 5-digit number = 13478 and
the greatest 5-digit number = 87431

3. (a) For the given digits 6, 1, 0, 9, 4 and 2

the smallest 6-digit number = 102469 and
the greatest 6-digit number = 964210

4. For the given digits 4, 6 and 9 and repeating each digit twice

   the greatest 6-digit number = 996644

5. For the given digits 6, 8 and 0

   the greatest 6-digit number = 888860

   and the smallest 6-digit number = 600008

6. (a) Rearranging the digits of the number 51235 to get the smallest 5-digit number, we find the number as 12355.

   (d) Rearranging the digits of the number 25006 to get the smallest 5-digit number, we find the number as 20056.

7. (a) Rearranging the digits of the number 100097 to get the greatest 6-digit number, we find the number as 971000.

   (d) Rearranging the digits of the number 919888 to get the greatest 6-digit number, we find the number as 998881.

Checkpoint 1E

1. Number of sarees sold in the first month = 15,825

   Number of sarees sold in the second month = 9,995

   We can see, here 15825 > 9995.

   Therefore, in the second month Rehana sells less number of sarees.

2. Money in Raghuraj's savings account = ₹ 4,53,900

   And money in Mustaq's savings account = ₹ 4,51,999

   We can see, here ₹ 4,53,900 > ₹ 4,51,999.

   Therefore, Mustaq has lesser amount in his account.

3. According to the question, we have

   First four digits of Vishakha's mobile number = 9999

   Last three digits of Vishakha's mobile number = 126

   And the rest three middle digits of her number = 555

   Therefore, Vishakha's mobile number = 9999555126

4. Education loan taken by Sohail = ₹ 1,50,500

   In words: One lakh fifty thousand five hundred

5. By observing the given data, we have

   (a) AO: 68,905; 75,242; 79,155; 80,000; 1,00,105; 1,00,250; 7,58,350

   (b) DO: 7,58,350; 1,00,250; 1,00,105; 80,000; 79,155; 75,242; 68,905

Practice (Page 25)

1. Since, XL = 40 and LX = 60.

   And 60 > 40.

   Therefore, LX > XL.

2. CLX = 160 and CXL = 140

   And 160 > 140.

   Therefore, CLX > CXL.

Checkpoint 1F

1. (a) $92 = (100 - 10) + 2 = XCII$

   (b) $283 = (100 + 100 + 50 + 10 + 10 + 10 + 3)$
   $= CCLXXXIII$

   (c) $337 = (100+100+100+10+10+10+5+2)$
   $= CCCXXXVII$

   (d) $497 = (500 - 100) + (100 - 10) + 5 + 2$
   $= CDXCVII$

2. (a) $IX \times L = 9 \times 50 = 450 = (500 - 100) + 50$
   $= CDL$

   (b) $XXIV \times XII = 24 \times 12 = 288$
   $= 100 + 100 + 50 + 10 + 10 + 10 + 5 + 3$
   $= CCLXXXVIII$

   (c) $LXVI \times VII = 66 \times 7 = 462$
   $= (500 - 100) + 50 + 10 + 2$
   $= CDLXII$

   (d) $XV \times XXV = 15 \times 25 = 375$
   $= 100 + 100 + 100 + 50 + 10 + 10 + 5$
   $= CCCLXXV$

Let Us Assess

1.

Lakhs period		Thousands period		Ones period		
TL	L	TTh	Th	H	T	O
Ten Lakhs	Lakhs	Ten Thousands	Thousands	Hundreds	Tens	Ones

2. Number shown by the abacus,

(b) In numeral: 6,90,009

In words: Six lakh ninety thousand nine

(c) In numeral: 9,13,195

In words: Nine lakh thirteen thousand one hundred ninety-five

3. (a) 59,901: Fifty-nine thousand nine hundred one

(b) 8,31,005: Eight lakh thirty-one thousand five

(c) 9,00,000: Nine lakh

(d) 9,09,090: Nine lakh nine thousand ninety

4. (a) lakhs, 500000

(b) 3; 3; 30000

(c) 9000 (d) 1

(e) 6 (f) 8

5. (a) 43289 = 40000 + 3000 + 200 + 80 + 9

(b) 65156 = 60000 + 5000 + 100 + 50 + 6

(c) 176583 = 100000 + 70000 + 6000 + 500 + 80 + 3

6. (a) > (b) < (c) < (d) <

7. (a) 355544; 534455; 534465; 555344

(d) 656230; 656023; 518767; 88761

8. (a) Greatest → 653321;
Smallest→ 123356

(b) Greatest → 987641;
Smallest → 146789

(c) Greatest→ 875430;
Smallest → 304578

9. (b) Greatest 5-digit number using the digits 6, 7 and 0 with repetition = 77760

(c) Greatest 5-digit number using the digits 1 and 0 with repetition = 11110

10. (a) Symbol I can be subtracted from V and X only.

(b) Symbols L, V and D can never be repeated.

(c) Repetition of X, C and I is not allowed more than 3 times.

(d) X can be subtracted from L and C only.

HOTS

1. To find the number of 5-digit numbers subtract the largest 4-digit number from the largest 5-digit number, that is,

99999 – 9999 = 90000

2. To find the number of 6-digit numbers subtract the largest 5-digit number from the largest 6-digit number, that is,

999999 – 99999 = 900000

Let's Work in Mind

1. 4-digit smallest number = 1000

5-digit greatest number = 99999

Required difference = 99999 – 1000 = 98999

Therefore, 1000 is 98999 less than 99999.

2. 50000: 50100; 50200; 50300; 50400; 50500; 50600

3. 10500: 11500; 12500; 13500; 14500; 15500; 16500; 17500

4. One thousand = 1000 = 100 × 10 = 100 times 10

Therefore, 100 tens make one thousand.

5. 1 lakh = 100000 = 1000 × 100 = 1000 times 100

Therefore, 1000 hundreds make 1 lakh.