Chapter 1 : Knowing Our Numbers

ANSWER KEYS

EXERCISE 1.1

1. (*i*) The given number can be written as

35,72,896
↑
lakhs place

As the digit 5 occupies lakhs place, so its place value is 5 × 100000 = 500000.

(*ii*) The given number can be written as

97,65,321
↑
thousands place

As the digit 5 occupies thousands place, so its place value is 5 × 1000 = 5000.

(*iii*) The given number can be written as

79,523
↑
hundreds place

As the digit 5 occupies hundreds place, so its place value is 5 × 100 = 500.

(*iv*) The given number can be written as

8,051
↑
tens place

As the digit 5 occupies tens place, so its place value is 5 × 10 = 50.

2. The given number can be written as

64,   35,   378
      ↑   ↑
ten   hundreds
thousands place
place

The place value of 3 at hundreds place = 3 × 100 = 300

The place value of 3 at ten thousands place = 3 × 10000 = 30000

Required product = 300 × 30000 = 9000000.

3. The given number can be written as

7,15,432
↑
thousands place

Face value of 5 = 5

Place value of 5 at thousands place = 5 × 1000 = 5000

Required difference = 5000 – 5 = 4995.

4. (*i*) 42491 = 4 × 10000 + 2 × 1000 + 4 × 100
+ 9 × 10 + 1
= 40000 + 2000 + 400 + 90 + 1.

(*ii*) 602732 = 6 × 100000 + 0 × 10000 + 2 × 1000
+ 7 × 100 + 3 × 10 + 2
= 600000 + 2000 + 700 + 30 + 2.

(*iii*) 20000275 = 2 × 10000000 + 0 × 1000000
+ 0 × 100000 + 0 × 10000 + 0 × 1000
+ 2 × 100 + 7 × 10 + 5
= 20000000 + 200 + 70 + 5.

5. (*i*) 1 lakh = 100000 = 100 × 1000 = 100 thousands

∴ 100 thousands make a lakh.

(*ii*) 1 crore = 10000000 = 10000 × 1000 = 10000 thousands

∴ 10000 thousands make a crore.

(*iii*) 1 million = 1000000 = 1000 × 1000 = 1000 thousands

∴ 1000 thousands make a million.

(*iv*) 1 billion = 1000000000 = 1000000 × 1000 = 1000000 thousands

∴ 1000000 thousands make a billion.

6. (*i*) 645007 = 645,007

Six hundred forty five thousand seven.

(*ii*) 2754629 = 2,754,629

Two million seven hundred fifty four thousand six hundred twenty nine.

(*iii*) 32604509 = 32,604,509

Thirty two million six hundred four thousand five hundred nine.

(*iv*) 57076342 = 57,076,342

Fifty seven million seventy six thousand three hundred forty two.

7. (*i*) 7904235 = 79,04,235

Number name— Seventy nine lakh four thousand two hundred thirty five.

(*ii*) 35040027 = 3,50,40,027

Number name— Three crore fifty lakh forty thousand twenty seven.

(*iii*) 2700085 = 27,00,085

Number name— Twenty seven lakh eighty five.

(iv) 5974316 = 59,74,316

Number name— Fifty nine lakh seventy four thousand three hundred sixteen.

8.

Millions			Thousands			Ones		
HM	TM	M	HTh	TTh	Th	H	T	O
4	4	4	3	3	3	2	2	2

The number is 444, 333, 222.

Indian system— 44, 43, 33, 222

Number name— Forty four crore forty three lakh thirty three thousand two hundred twenty two.

9. Given number = 349

Number obtained on reversing its digits = 943

Required difference = 943 – 349 = 594.

10. (i)

C	TL	L	TTh	Th	H	T	O
5	4	2	0	0	0	3	9

Hence, numeral is 5,42,00,039.

(ii)

TL	L	TTh	Th	H	T	O
7	1	0	0	0	0	7

Hence, numeral is 71,00,007.

(iii)

C	TL	L	TTh	Th	H	T	O
9	2	5	1	2	0	0	7

Hence, numeral is 9,25,12,007.

(iv)

HTh	TTh	Th	H	T	O
6	2	1	0	0	5

Hence, numeral is 621,005.

(v)

M	HTh	TTh	Th	H	T	O
4	0	4	9	6	0	8

Hence, numeral is 4,049,608.

(vi)

TM	M	HTh	TTh	Th	H	T	O
2	9	4	0	5	7	0	3

Hence, numeral is 29,405,703.

11. Base 10 system refers to decimal number system.

Four digit numbers are from 1000 to 9999 (both inclusive)

Number of 4-digit numbers = 9999 – 999

= 9000.

12. The given digits are 3, 7 and 9.

The possible ways of choosing two digits are

3,7 ; 3,9 ; 7,9.

Using digits 3 and 7, the numbers formed are

33, 37, 73, 77.

Using digits 3 and 9, the numbers formed are

33, 39, 93, 99.   (33 is repeated)

Using digits 7 and 9, the numbers formed are

77, 79, 97, 99.   (77 and 99 are repeated)

Hence, the numbers are

33, 37, 73, 77, 39, 93, 79, 97, 99.

13. (i) 7000 + 500 + 30 + 9 = 7 × 1000 + 5 × 100

+ 3 × 10 + 9

= 7539

(ii) 60000 + 3000 + 600 + 7 = 7 × 10000 + 3 × 1000

+ 6 × 100 + 0 × 10 + 7

= 63607

(iii) 9000000 + 6000 + 300 + 50 + 4

= 9 × 1000000 + 0 × 100000 + 0 × 10000 + 6 × 1000

+ 3 × 100 + 5 × 10 + 4

= 9006354.

EXERCISE 1.2

1. (i) Three consecutive numbers succeeding 70259 are 70259 + 1, 70259 + 2 and 70259 + 3 *i.e.,* 70260, 70261 and 70262.

(ii) Three consecutive numbers preceding 37201 are 37201 – 1, 37201 – 2 and 37201 – 3 *i.e.,* 37200, 37199, 37198.

2. Odd numbers between 151 and 168 are

153, 155, 157, 159, 161, 163, 165 and 167.

3. (i)

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

Arranging the numbers in place value chart, we see that 65432913 is the greatest and 274580 is the smallest among these.

The numbers in ascending order are as follows:

274580 < 485673 < 2456890 < 65432913.

(ii) Arranging the numbers in the place value chart,

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

We see that 1660080 is the greatest and 234506 is the smallest among these.

The numbers in ascending order are as follows :

234506 < 325094 < 1606080 < 1660080.

4. (*i*) Arranging the numbers in the place value chart,

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

We see that 5690084 is the greatest and 569641 is the smallest among these.

The numbers in descending order are as follows :

5690084 > 4572340 > 4569235 > 569641.

(*ii*) Arranging the numbers in place value chart,

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

We see that 1024567 is the greatest and 204561 is the smallest among these.

The numbers in descending order are as follows:

1024567 > 1023429 > 1014982 > 204561.

5. Both the numbers have equal number of digits.

The digits in the highest place in both the numbers are same.

The digit in the second highest place in 572845 = 7

The digit in the second highest place in 569784 = 6

∴   572845 > 569784.

6. (*i*) Arranging the numbers in place value chart,

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

Comparing the numbers at places (highest to second highest and so on)

∴   4982 is the greatest and 4270 is the smallest among these.

(*ii*) Arranging the numbers in place value chart and comparing

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

26523 is the greatest and 26170 is the smallest among these.

(*iii*) Arranging the numbers in place value chart and comparing

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

13529 is the greatest and 12425 is the smallest among these.

(*iv*) Arranging the numbers in place value chart and comparing

TTh	Th	H	T	O
	8	6	9	5
6	8	2	4	5
6	8	4	3	5
6	8	3	5	4

68435 is the greatest and 8695 is the smallest among these.

7. Arranging the digits in descending order, we get 7, 5, 4, 3, 1, 0.

Greatest 6-digit number = 754310.

8.   Greatest 6-digit number = 999999

Smallest 5-digit number = 10000

Required difference = 999999 – 10000

= 989999.

9. (*i*) Arranging the digits in ascending order, we get 1, 2, 3, 5, 6, 7

Smallest 6-digit number = 123567

(*ii*) Arranging the digits in ascending order, we get 1, 3, 5, 6, 7, 9

Smallest 6-digit number = 135679

EXERCISE 1.3

1.   Cost of 1 ceiling fan = ₹ 1200

Cost of 50 ceiling fans = ₹ 1200 × 50

= ₹ 60000

Money left after purchasing 50 ceiling fans

= ₹ 80290 – ₹ 60000

= ₹ 20290

2. Distance between school and Rahim's house

= 1 km 420 m

= (1000 + 420) m

= 1420 m

Distance covered by Rahim in a day

= 2 × 1420 m = 2840 m

Distance covered by Rahim in 5 days

= 5 × 2840 m = 14200 m

= 14 km 200 m

3. Number of sheets of paper = 75000

   Total number of pages = 8 × 75000 = 600000

   Each book contains 200 pages.

   Number of notebooks that can be made

   $$= \frac{600000}{200} = 3000$$

4. Quantity of oil in one bottle = 900 ml

   Quantity of oil contained in 40 bottles = 900 × 40 ml

   = 36000 ml

   = 36 litres

5. Quantity of sugar = 45 kg 450 gm

   = (45 × 1000 + 450) gm

   = 45450 gm

   It is distributed among 15 persons.

   Each will get $\frac{45450}{15}$ gm = 3030 gm

   = 3 kg 30 gm

6. Total number of votes polled

   = 7,26,249 + 5,26,351 + 45,460 + 2,285

   = 13,00,345

   So, 13,00,345 votes are polled in the constituency.

7. No. of screws produced in a year

   = Production per day × No. of working days

   = 8565 × 291

   = 24,92,415

8. Population of town in the year 2012

   = Population in 2011 + Increase in population

   = 3,25,243 + 51,927

   = 3,77,170

   Hence, population in the year 2012 was 3,77,170.

9. Weight of all the tablets in the box = 250000 × 20 mg

   = 5000000 mg

   $$= \frac{5000000}{1000} \text{ g} = 5000 \text{ g}$$

   $$= \frac{5000}{1000} \text{ kg} = 5 \text{ kg}$$

   Weight of all tablets in the box is 5000 g or 5 kg.

10. Correct answer = 8245 × 32

    = 263840

    Answer got by the student = 8245 × 35

    = 288575

    Difference = 288575 − 263840

    = 24735

    His answer was 24735 greater than the correct answer.

11. Cloth needed for one shirt = 2 m 20 cm

    = (2 × 100 + 20) cm

    = 220 cm

    Cloth needed for 16 shirts = 16 × 220 cm

    = 3520 cm

    = 35 m 20 cm.

12. No. of pages in one copy of newspaper = 14

    No. of pages in 12928 copies of newspaper = 14 × 12928

    = 180992

    So, 1,80,992 pages are printed everyday.

13. Number of T.V. sets sold in the year 2009–10

    = 8,47,200

    Number of T.V. sets sold in the year 2010–11

    = 9,10,345

    ∵   9,10,345 > 8,47,200

    Difference = 910345 − 847200

    = 63145

    So, more T.V. sets sold in the year 2010–11 and the number was 63,145.

14. Distance travelled by Mohit

    = 8 km 425 m + 13 km 210 m + 15 km 675 m

    = 37 km 310 m

    The distance travelled by Mohit is 37 km 310 m.

15. The taken by engine

    $$= \frac{\text{Quantity of water to be pump out}}{\text{Quantity of water pump out in one minute}}$$

    $$= \frac{13,77,000}{850}$$

    = 1620 minutes

    $$= \frac{1620}{60} \text{ hours}$$

    = 27 hours

    So, engine pumps out 13,77,000 litres of water in 27 hours.

EXERCISE 1.4

1. (i) 82 lies between 80 and 90. It is nearer to 80 than to 90. Hence rounded off number is 80.

   (ii) 884 lies between 880 and 890. It is nearer to 880 than to 890. Hence, rounded off number is 880.

   (iii) 997 lies between 900 and 1000. It is nearer to 1000 than to 900. Hence, rounded off number is 1000.

   (iv) 13097 lies between 13090 and 13100. It is nearer to 13100 than to 13090. Hence, rounded off number is 13100.

   (v) 26925 lies between 26920 and 26930. It is halfway between 26920 and 26930. By convention, we round it off to 26930.

(*vi*) 15802 lies between 15800 and 15810. It is nearer to 15800 than to 15810. Hence rounded off number is 15800.

2. (*i*) 630 lies between 600 and 700. It is nearer to 600 than to 700. Hence, rounded off number is 600.

(*ii*) 948 lies between 900 and 1000. It is nearer to 900 than to 1000. Hence, rounded off number is 900.

(*iii*) 4783 lies between 4700 and 4800. 4783 is nearer to 4800 than to 4700. Hence, rounded off number is 4800.

(*iv*) 5249 lies between 5200 and 5300. It is nearer to 5200 than to 5300. Hence, rounded off number is 5200.

(*v*) 27726 lies between 27700 and 27800. It is nearer to 27700 than to 27800. Hence, rounded off number is 27700.

(*vi*) 3124 lies between 3100 and 3200. It is nearer to 3100 than to 3200. Hence, rounded off number is 3100.

3. (*i*) 3402 lies between 3000 and 4000. It is nearer to 3000 than to 4000. Hence, rounded off number is 3000.

(*ii*) 8603 lies between 8000 and 9000. It is nearer to 9000 than to 8000. Hence, rounded off number is 9000.

(*iii*) 4718 lies between 4000 and 5000. It is nearer to 5000 than to 4000. Hence, rounded off number is 5000.

(*iv*) 5823 lies between 5000 and 6000. It is nearer to 6000 than to 5000. Hence, rounded off number is 6000.

(*v*) 51342 lies between 51000 and 52000. It is nearer to 51000 than to 52000. Hence, rounded off number is 51000.

(*vi*) 26012 lies between 26000 and 27000. It is nearer to 26000 than to 27000. Hence, rounded off number is 26000.

4. The numbers which are rounded off to nearest tens as 420 are as follows:

415, 416, 417, 418, 419, 420, 421, 422, 423, 424.

EXERCISE 1.5

1. (*i*) 692 is rounded off to the nearest hundreds as 700.
237 is rounded off to the nearest hundreds as 200.
    Estimated sum = 700 + 200 = 900.

(*ii*) 207 is rounded off to the nearest hundreds as 200.
391 is rounded off to the nearest hundreds as 400.
    Estimated sum = 200 + 400 = 600

(*iii*) 587 is rounded off to the nearest hundreds as 600.
182 is rounded off to the nearest hundreds as 200.
    Estimated sum = 600 + 200 = 800.

(*iv*) 509 is rounded off to the nearest hundreds as 500.
89 is rounded off to the nearest hundreds as 100.
    Estimated sum = 500 + 100 = 600.

2. (*i*) 883 is rounded off to the nearest hundreds as 900.
466 is rounded off to the nearest hundreds as 500.
    Estimated difference = 900 − 500 = 400.

(*ii*) 781 is rounded off to the nearest hundreds as 800.
539 is rounded off to the nearest hundreds as 500.
    Estimated difference = 800 − 500 = 300.

(*iii*) 900 is rounded off to the nearest hundreds as 900.
675 is rounded off to the nearest hundreds as 700.
    Estimated difference = 900 − 700 = 200.

(*iv*) 629 is rounded off to the nearest hundreds as 600.
485 is rounded off to the nearest hundreds as 500.
    Estimated difference = 600 − 500 = 100.

3. (*i*) 28 is rounded off (to the nearest tens) as 30.
67 is rounded off (to the nearest tens) as 70.
    ∴   30 × 70 = 2100.

(*ii*) 79 is rounded off (to the nearest tens) as 80.
192 is rounded off (to the nearest hundreds) as 200.
    ∴   Estimated product = 80 × 200 = 16000.

(*iii*) 92 is rounded off (to the nearest tens) as 90.
697 is rounded off (to the nearest hundreds) as 700.
    ∴   Estimated product = 90 × 700 = 63000.

4. (*i*) 877 is rounded off (to the nearest hundreds) as 900.
(877 is a 3-digit number)
725 is rounded off (to the nearest hundreds) as 700.
(725 is a 3-digit number)
    ∴   Estimated product = 900 × 700 = 630000.

(*ii*) 9 is rounded off (to the nearest tens) as 10.
(9 is 1-digit number)
792 is rounded off (to the nearest hundreds) as 800.
(792 is 3-digit number)
    ∴   Estimated product = 10 × 800 = 8000.

(*iii*) 87 is rounded off (to the nearest tens) as 90.
(87 is 2-digit number)
221 is rounded off (to the nearest hundreds) as 200.
(221 is 3-digit number)
    ∴   Estimated product = 90 × 200 = 18000.

5. (*i*) ₹ 5.26 is rounded off as ₹ 5.00.
₹ 2.85 is rounded off as ₹ 3.00.
    Estimated sum = ₹ 5.00 + ₹ 3.00 = ₹ 8.00.

(*ii*) ₹ 1.78 is rounded off as ₹ 2.00
₹ 6.82 is rounded off as ₹ 7.00.
    ∴   Estimated sum = ₹ 2.00 + ₹ 7.00 = ₹ 9.00.

(iii) ₹ 9.07 is rounded off as ₹ 9.00

₹ 5.92 is rounded off as ₹ 6.00.

∴ Estimated difference = ₹ 9.00 – ₹ 6.00 = ₹ 3.00.

(iv) ₹ 5.81 is rounded off as ₹ 6.00

₹ 2.39 is rounded off as ₹ 2.00.

∴ Estimated difference = ₹ 6.00 – ₹ 2.00 = ₹ 4.00.

(v) ₹ 7.67 is rounded off as ₹ 8.00

₹ 2.05 is rounded off as ₹ 2.00.

∴ Estimated difference = ₹ 8.00 – ₹ 2.00 = ₹ 6.00.

(vi) ₹ 8.05 is rounded off as ₹ 8.00

₹ 4.82 is rounded off as ₹ 5.00.

∴ Estimated sum = ₹ 8.00 + ₹ 5.00 = ₹ 13.00.

6. (i) 6398 is rounded off to the nearest thousands as 6000.

17928 is rounded off to the nearest thousands as 18000.

∴ Estimated sum = 6000 + 18000 = 24000.

(ii) 6893 is rounded off to the nearest thousands as 7000.

789 is rounded off to the nearest hundreds as 800.

∴ Estimated sum = 7000 + 800 = 6200.

(iii) 39 is rounded off to the nearest tens as 40.

311 is rounded off to the nearest hundreds as 300.

∴ Estimated product = 40 × 300 = 12000.

(iv) 968 is rounded off to the nearest hundreds as 1000.

539 is rounded off to the nearest hundreds as 500.

∴ Estimated product = 1000 × 500 = 500000.

EXERCISE 1.6

1. (i) 32 = 30 + 2 = XXX + II = XXXII

(ii) 85 = 50 + 30 + 5 = L + XXX + V = LXXXV

(iii) 1600 = 1000 + 500 + 100 = M + D + C = MDC

(iv) 42 = 40 + 2 = XL + II = XLII

(v) 95 = 100 – 5 = 90 + 5 = XC + V = XCV

(vi) 347 = 300 + 40 + 7 = CCC + XL + VII = CCCXLVII

(vii) 1672 = 1000 + 500 + 100 + 50 + 20 + 2

= M + D + C + L + XX + II = MDCLXXII

(viii) 1491 = 1000 + 400 + 90 + 1 = M + CD + XC + I

= MCDXCI

2. (i) XXVI = XX + VI = 20 + 6 = 26

(ii) XLV = XL + V = 40 + 5 = 45

(iii) CLIX = C + L + IX = 100 + 50 + 9 = 159

(iv) CD = (500 – 100) = 400

(v) XLIV = XL + IV = 40 + 4 = 44

(vi) LXIV = LX + IV = 60 + 4 = 64

(vii) LVIII = L + VIII = 50 + 8 = 58

(viii) CMLXV = CM + LX + V = (1000 – 100) + 60 + 5

= 900 + 60 + 5 = 965

3. (i) CXCVII = C + XC + VII = 100 + (100 – 10) + 7

= 100 + 90 + 7 = 197

CLXXV = C + LXX + V = 100 + 70 + 5 = 175

CXCVII ⊳ CLXXV

(ii) XXIV = XX + IV = 20 + 4 = 24

XLV = XL + V = 40 + 5 = 45

XXIV ⊲ XLV

(iii) LXIX = LX + IX = 60 + 9 = 69

LXXII = LXX + II = 70 + 2 = 72

LXIX ⊲ LXXII

(iv) LX = 60,   XC = 90

LX ⊲ XC

(v) XLIV = XL + IV = 40 + 4 = 44

LXIV = LX + IV = 60 + 4 = 64

XLIV ⊲ LXIV

(vi) XCII = XC + II = 90 + 2 = 92

LXV = LX + V = 60 + 5 = 65

XCII ⊳ LXV

4. (i) VXI— meaningless as V is never written to the left of X.

(ii) IC— meaningless as I can be subtracted from V and X only.

(iii) XL— 40.

(iv) VL— meaningless as V is never written to the left of L.

(v) LXXIV— 74.

(vi) VVIII— meaningless as V is never repeated.

(vii) XCI— 91.

(viii) MVXVX— meaningless as V is never written to the left of X.

5. (i) XC + X = 90 + 10 = 100 = C

(ii) XXX – V = 30 – 5 = 25 = XXV

(iii) XCII – XXVII = 92 – 27 = 65 = LXV

(iv) XLIV + XX = 44 + 20 = 64 = LXIV

(v) XCV – LXXV = 95 – 75 = 20 = XX

(vi) LX – XL = 60 – 40 = 20 = XX.

6. (i) LXII = L + XII = 50 + 12 = 62

(ii) DCCXL = D + CC + XL = 500 + 200 + 40 = 740

(iii) XLIX = XL + IV = 40 + 9 = 49

(iv) LIV = L + IV = 50 + 4 = 54

(v) CIX = C + IX = 100 + 9 = 109

(vi) DLXIX = D + LX + IX = 500 + 60 + 9 = 569

(vii) XCIX = XC + IX = 90 + 9 = 99

(*viii*) CLXVII = C + LX + VII = 100 + 60 + 7 = 167

(*ix*) CCCXL = CCC + XL = 300 + 40 = 340

(*x*) CDXLV = CD + XL + V = 400 + 40 + 5 = 445.

MULTIPLE CHOICE QUESTIONS

1. Smallest 3-digit number = 100

   Largest 2-digit number = 99

   Difference = 100 – 99 = 1

   Hence, option (*b*) is correct.

2. One billion = 1,000,000,000

   = 1,00,00,00,000

   = 100 crore

   Hence, option (*d*) is correct.

3. The smallest counting number is 1.

   Hence, option (*a*) is correct.

4. One million = 1,000,000 = 10,00,000 = 10 lakh

   Hence, option (*b*) is correct.

5. Largest 2-digit number = 99

   Largest 2-digit number with distinct digits = 98

   Difference = 99 – 98 = 1

   Hence, option (*d*) is correct.

6. The greatest number which when rounded off to the nearest thousands as 6000 is 6499.

   5999 and 5600 are rounded off to the nearest thousands as 6000. But these are less than 6499.

   Hence, option (*b*) is correct.

7. 65 is rounded off as 70.

   52 is rounded off as 50.

   59 is rounded off as 60.

   63 is rounded off as 60.

   Hence, option (*c*) is correct.

8. The greatest number which is rounded off to the nearest tens as 9000 is 9004.

   The smallest number which is rounded off to the nearest tens as 9000 is 8995.

   Difference = 9004 – 8995 = 9

   Hence, option (*a*) is correct.

9. Place value of 6 in the number 53649 = 6 × 100 = 600

   Face value of 6 = 6

   Difference = 600 – 6 = 594

   Hence, option (*b*) is correct.

10. Two digits numbers are from 10 to 99.

    Number of 2-digit numbers = 99 – 9 = 90

    Hence, option (*a*) is correct.

11. The digit at the highest place in a number has greatest place value.

8 has the greatest place value in 80349.

Hence, option (*b*) is correct.

12. The digits in the number 96308 are 9, 6, 3, 0 and 8.

    9 has the greatest face value.

    Hence, option (*a*) is correct.

13. 81 = 50 + 30 + 1 = L + XXX + I = LXXXI

    Hence, option (*b*) is correct.

14. Arranging the digits in ascending order, 0, 2, 6, 8.

    A number cannot be started with 0.

    Smallest 4-digit number = 2068

    Hence, option (*c*) is correct.

15. Successor of 39,999 = 39,999 + 1 = 40,000

    Hence, option (*a*) is correct.

16. 889500 comes just after 889499.

    Hence, option (*c*) is correct.

17. XC = 100 – 10 = 90

    Hence, option (*b*) is correct.

18. 9999 comes just before 10,000.

    Hence, option (*b*) is correct.

19. One quintal = 100 kg

    Hence, option (*b*) is correct.

20. IIX is meaningless as I can never be repeated before X.

    Hence, option (*d*) is correct.

MENTAL MATHS CORNER

1. The smallest natural number is **1**.

2. A Roman numeral cannot be repeated more than **3** times.

3. 1 tonne = **1000** kg.

4. The greatest number which can be rounded off to the nearest thousands as 9000 is **9499**.

5. **1000** mg = one Kilogram.

6. The smallest 3-digit number with distinct digits is **102**.

   For writing smallest 3-digit number, we choose three digits as 0, 1, 2 and do not write 0 at leftmost place and make the number.

7. Repetition of a Roman numeral means **addition of numbers**.

8. Symbol C in Roman numeral can be subtracted from **D** and **M**.

9. The largest 4-digit number with distinct digits is **9876**.

10. 159 in Roman numeral is written as **CLIX**.

    ∵ 159 = 100 + 50 + 9 = C + L + IX = CLIX

11. LX + **XC** = CL.

    ∵ LX = 60, CL = 150, 150 – 60 = 90 = XC.

REVIEW EXERCISE

1. (i) 22 is rounded off to the nearest tens as 20.

   587 is rounded off to the nearest tens as 590.

   Estimated sum = 20 + 590 = 610.

   (ii) 2496 is rounded off to the nearest tens as 2500.

   5786 is rounded off to the nearest tens as 5790.

   Estimated sum = 2500 + 5790 = 8290.

2. (i) 239 = 200 + 30 + 9 = CC + XXX + IX = CCXXXIX

   (ii) 756 = 700 + 50 + 6 = DCC + L + VI = DCCLVI

   (iii) 471 = 400 + 50 + 21 = CD + L + XXI = CDLXXI

   (iv) 89 = 50 + 30 + 9 = L + XXX + IX = LXXXIX

   (v) 192 = 100 + 90 + 2 = C + XC + II = CXCII

   (vi) 173 = 100 + 50 + 20 + 3 = C + L + XX + III = CLXXIII

3. (i) DCCXLVI = 500 + 200 + 40 + 6 = 746

   (ii) MXV = 1000 + 10 + 5 = 1015

   (iii) XLVII = 40 + 7 = 47

   (iv) CCXLIX = 200 + 40 + 9 = 249

   (v) LIV = 50 + 4 = 54

   (vi) XCVIII = 90 + 8 = 98.

4. 976 and 396 are 3-digit numbers.

   976 rounded off to the nearest hundreds as 1000.

   396 rounded off to the nearest hundreds as 400.

   Estimated product = 1000 × 400 = 400000.

5. The numbers which are rounded off to the nearest tens as 240 are

   235, 236, 237, 238, 239, 240, 241, 242, 243, 244

6. Correct answer = 5289 × 72 = 380808

   Wrong answer = 5289 × 82 = 433698

   Difference = 433698 − 380808 = 52890

   His answer was 52890 greater than the correct answer.

7. The whole numbers between 200 and 300 which do not change if their digits are reversed are those which have 2 at their ones and hundreds places, and their tens digits are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

   The required numbers are 202, 212, 222, 232, 242, 252, 262, 272, 282, 292.

8. Greatest number using 3, 6, 8, 1 = 8631

   [digits in descending order]

   Smallest number using 3, 6, 8, 1 = 1368

   [digits in ascending order]

   Difference = 8631 − 1368

   = 7263.

9. (i) Six arab fifty two crore one lakh twenty seven thousand five hundred sixty two.

   (ii) Seventeen crore seventeen thousand seventeen.

   (iii) Nine lakh four thousand two hundred sixty one.

   (iv) Twenty six arab thirty four crore eight lakh thirty four thousand five hundred.

10. (i)

HTh	TTh	Th	H	T	O
5	6	5	0	0	3

The number is 565,003.

(ii)

M	HTh	TTh	Th	H	T	O
2	0	5	9	7	0	2

The number is 2,059,702.

(iii)

TM	M	HTh	TTh	Th	H	T	O
3	0	6	0	7	4	0	8

The number is 30, 607, 408.

HOTS QUESTIONS

1. (i) 909090909 comes just before **909090910**.

   ∵ 909090910 − 1 = 909090909.

   (ii) 57325499 comes just after **57325498**.

   ∵ 57325498 + 1 = 57325499.

   (iii) 33465800 comes just before **33465801**.

   ∵ 33465801 − 1 = 33465800.

   (iv) 52547900 comes just after **52547899**.

   ∵ 52547899 + 1 = 52547900.

   (v) 100000 is referred to as **one hundred thousand** in international system.

   (vi) 9642 cm = **96** m **42** cm

   ∵ 9642 cm = (9642 ÷ 100) m = 96 m 42 cm

   (vii) 5555 + 4444 + 1 = **10000**.

2. To write smallest number, we choose digits 0, 1, 2, 3. (Four different digits)

1	0	0	0	0	2	3

We write 1 at the leftmost place and 2, 3 at rightmost place. We insert rest digits using 0.

Smallest number of 7 digits using 0, 1, 2, 3 = 1000023.

Puzzle

1	4	2	4	3	1	2	3

or

3	2	1	3	4	2	4	1

VALUE BASED QUESTION
SUMMATIVE ASSESSMENT

(a) III − II = I ⇒ III + I = IV

(b) VI − X = IV ⇒ VI = X − IV

(c) IX + V = III ⇒ IX − VI = III

Small changes make things better.