

Number System

Exercise 1A

Q1.

Answer :

- (i) Nine thousand eighteen = 9018
- (ii) Fifty-four thousand seventy-three = 54073
- (iii) Three lakh two thousand five hundred six = 302506
- (iv) Twenty lakh ten thousand eight = 2010008
- (v) Six crore five lakh fifty-seven = 60500057
- (vi) Two crore two lakh two thousand two hundred two = 20202202
- (vii) Twelve crore twelve lakh twelve thousand twelve = 121212012
- (viii) Fifteen crore fifty lakh twenty thousand sixty-eight = 155020068

Q2

Answer :

- (i) 63,005 = Sixty-three thousand five
- (ii) 7,07,075 = Seven lakh seven thousand seventy-five
- (iii) 34,20,019 = Thirty-four lakh twenty thousand nineteen
- (iv) 3,05,09,012 = Three crore five lakh nine thousand twelve
- (v) 5,10,03,604 = Five crore ten lakh three thousand six hundred four
- (vi) 6,18,05,008 = Six crore eighteen lakh five thousand eight
- (vii) 19,09,09,900 = Nineteen crore nine lakh nine thousand nine hundred
- (viii) 6,15,30,807 = Six crore fifteen lakh thirty thousand eight hundred seven
- (ix) 6,60,60,060 = Six crore sixty lakh sixty thousand sixty

Q3

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Answer :

(i) $15,768 = (1 \times 10000) + (5 \times 1000) + (7 \times 100) + (6 \times 10) + (8 \times 1)$

(ii) $3,08,927 = (3 \times 100000) + (8 \times 1000) + (9 \times 100) + (2 \times 10) + (7 \times 1)$

(iii) $24,05,609 = (2 \times 1000000) + (4 \times 100000) + (5 \times 1000) + (6 \times 100) + (9 \times 1)$

(iv) $5,36,18,493 = (5 \times 10000000) + (3 \times 1000000) + (6 \times 100000) + (1 \times 10000) + (8 \times 1000) + (4 \times 100) + (9 \times 10) + (3 \times 1)$

(v) $6,06,06,006 = (6 \times 10000000) + (6 \times 100000) + (6 \times 1000) + (6 \times 1)$

(iv) $9,10,10,510 = (9 \times 10000000) + (1 \times 1000000) + (1 \times 10000) + (5 \times 100) + (1 \times 10)$

Q4

Answer :

(i) $6 \times 10000 + 2 \times 1000 + 5 \times 100 + 8 \times 10 + 4 \times 1 = 62,584$

(ii) $5 \times 100000 + 8 \times 10000 + 1 \times 1000 + 6 \times 100 + 2 \times 10 + 3 \times 1 = 5,81,623$

(iii) $2 \times 10000000 + 5 \times 100000 + 7 \times 1000 + 9 \times 100 + 5 \times 1 = 2,05,07,905$

(iv) $3 \times 1000000 + 4 \times 100000 + 6 \times 1000 + 5 \times 100 + 7 \times 1 = 34,06,507$

Q5

Answer :

The place value of 9 at ten lakhs place = 90 lakhs = 9000000

The place value of 9 at hundreds place = 9 hundreds = 900

\therefore Required difference = $(9000000 - 900) = 8999100$

Q6

Answer :

The place value of 7 in 27650934 = 70 lakhs = 70,00,000

The face value of 7 in 27650934 = 7

\therefore Required difference = $(7000000 - 7) = 69,99,993$

Q7

Answer :

The largest 6-digit number = 999999

The smallest 6-digit number = 100000

\therefore Total number of 6-digit numbers = $(999999 - 100000) + 1$
 $= 899999 + 1$
 $= 900000$
 $= 9 \text{ lakhs}$

Q8

Answer :

The largest 7-digit number = 9999999

The smallest 7-digit number = 1000000

\therefore Total number of 7-digit numbers = $(9999999 - 1000000) + 1$
 $= 8999999 + 1$
 $= 9000000$
 $= \text{Ninety lakhs}$

Q9

Answer :

One lakh (1,00,000) is equal to one hundred thousand (100×1000).

Thus, one hundred thousands make a lakh.

Q10

Answer :

One crore (1,00,00,000) is equal to one hundred lakh (10,000 × 1,000).
Thus, 10,000 thousands make a crore.

Q11

Answer :

The given number is 738.
On reversing the digits of this number, we get 837.
∴ Required difference = 837 – 738 = 99

Q12

Answer :

The number just after 9547999 is $9547999 + 1 = 9548000$.

Q13

Answer :

The number just before 9900000 is $9900000 - 1 = 9899999$.

Q14

Answer :

The number just before 10000000 is $10000000 - 1 = 9999999$.

Q15

Answer :

The 3-digit numbers formed by 2, 3 and 4 by taking each digit only once are 234, 324, 243, 342, 423 and 432.

Q16

Answer :

The smallest number formed by using each of the given digits (i.e. 3, 1, 0, 5 and 7) only once is 10357.

Q17

Answer :

The largest number formed by using each of the given digits only once is 964320.

Q18

Answer :

Representation of the numbers on the international place-value chart:

Periods	Millions			Thousands			Ones		
	Hundred millions	Ten millions	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
Place	HM	TM	M	H Th	T Th	Th	H	T	O
(i)				7	3	5	8	2	1
(ii)			6	0	5	7	8	9	4
(iii)		5	6	9	4	3	8	2	1
(iv)		3	7	5	0	2	0	9	3
(v)		8	9	3	5	0	0	6	4
(vi)		9	0	7	0	3	0	0	6
		Crore	Ten lakhs	Lakhs	Ten Thousand	Thousand	Hundred	Tens	Ones

The number names of the given numbers in the international system:

- (i) 735,821 = Seven hundred thirty-five thousand eight hundred twenty-one
- (ii) 6,057,894 = Six million fifty-seven thousand eight hundred ninety-four
- (iii) 56,943,821 = Fifty-six million nine hundred forty-three thousand eight hundred twenty-one
- (iv) 37,502,093 = Thirty-seven million five hundred two thousand ninety-three
- (v) 89,350,064 = Eighty-nine millions three hundred fifty thousand sixty-four
- (vi) 90,703,006 = Ninety million seven hundred three thousand and six

Q19

Answer :

Periods	Millions			Thousands			Ones		
	Hundred millions	Ten millions	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
	HM	TM	M	H Th	T Th	Th	H	T	O
(i)		3	0	1	0	5	0	6	3
(ii)		5	2	2	0	5	0	0	6
(iii)			5	0	0	5	0	0	5

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Number System

Exercise 1B

Q1

Answer :

$$1003467 > 987965$$

We know that a 7-digit number is always greater than a 6-digit number. Since 1003467 is a 7-digit number and 987965 is a 6-digit number, 1003467 is greater than 987965.

Q2

Answer :

$$3572014 < 10235401$$

We know that a 7-digit number is always less than an 8-digit number. Since 3572014 is a 7-digit number and 10235401 is an 8-digit number, 3572014 is less than 10235401.

Q3

Answer :

Both the numbers have the digit 3 at the ten lakhs places.
Also, both the numbers have the digit 2 at the lakhs places.
However, the digits at the ten thousands place in 3254790 and 3260152 are 5 and 6, respectively.
Clearly, $5 < 6$
 $\therefore 3254790 < 3260152$

Q4

Answer :

Both have the digit 1 at the crores places.
However, the digits at the ten lakhs places in 10357690 and 11243567 are 0 and 1, respectively.
Clearly, $0 < 1$
 $\therefore 10357690 < 11243567$

Q5

Answer :

27596381 > 7965412

We know that an 8-digit number is always greater than a 7-digit number. Since 7965412 is a 7-digit number and 27596381 is an 8-digit number, 27596381 is greater than 7965412.

Q6

Answer :

Both the numbers have the same digits, namely 4, 7, 8 and 9, at the crores, ten lakhs, lakhs and ten thousands places, respectively.

However, the digits at the thousands place in 47893501 and 47894021 are 3 and 4, respectively.

Clearly, $3 < 4$

$\therefore 47893501 < 47894021$

Q7

Answer :

102345680 is a 9-digit number.

63521047 and 63514759 are both 8-digit numbers.

Both the numbers have the same digits, namely 6, 3 and 5, at the crores, ten lakhs and lakhs places, respectively.

However, the digits at the ten thousands place in 63521047 and 63514759 are 2 and 1, respectively.

Clearly, $2 > 1$

$\therefore 63521047 > 63514759$

7355014 and 7354206 are both 7-digit numbers.

Both the numbers have the same digits, namely 7, 3 and 5 at the crores, ten lakhs and lakhs places, respectively.

However, the digits at the ten thousands place in 7355014 and 7354206 are 5 and 4, respectively.

Clearly, $5 > 4$

$\therefore 7355014 > 7354206$

The given numbers in descending order are:

102345680 > 63521047 > 63514759 > 7355014 > 7354206

Q8

Answer :

23794206 and 23756819 are both 8-digit numbers.

Both the numbers have the same digits, namely 2, 3 and 7 at the crores, ten lakhs and lakhs places, respectively.

However, the digits at the ten thousands place in 23794206 and 23756819 are 9 and 5, respectively.

Clearly, $9 > 5$

$\therefore 23794206 > 23756819$

5032790 and 5032786 are both 7-digit numbers.

Both the numbers have the same digits, namely 5, 0, 3, 2 and 7, at the ten lakhs, lakhs, ten thousands, thousands and hundreds places, respectively.

However, the digits at the tens place in 5032790 and 5032786 are 9 and 8, respectively.

Clearly, $9 > 8$

$\therefore 5032790 > 5032786$

987876 is a 6-digit number.

The given numbers in descending order are:

23794206 > 23756819 > 5032790 > 5032786 > 987876

Q9

Answer :

16060666 and 16007777 are both 8-digit numbers.

Both the numbers have the same digits, namely 1, 6 and 0, at the crores, ten lakhs and lakhs places, respectively.

However, the digits at the ten thousands place in 16060666 and 16007777 are 6 and 0, respectively.

Clearly, $6 > 0$

$\therefore 16060666 > 16007777$

1808090 and 1808088 are both 7-digit numbers.

Both the numbers have the same digits, namely 1, 8, 0, 8 and 0, at the ten lakhs, lakhs, ten thousands, thousands and hundreds places, respectively.

However, the digits at the tens place in 1808090 and 1808088 are 9 and 8, respectively.

Clearly, $9 > 8$

$\therefore 1808090 > 1808088$

190909 and 181888 are both 6-digit numbers.

Both the numbers have the same digit, 1, at the lakhs place.

However, the digits at the ten thousands place in 190909 and 181888 are 9 and 8, respectively.

Clearly, $9 > 8$

$\therefore 190909 > 181888$

Thus, the given numbers in descending order are:

$16060666 > 16007777 > 1808090 > 1808088 > 190909 > 181888$

Q10

Answer :

1712040, 1704382 and 1702497 are all 7-digit numbers.

The three numbers have the same digits, namely 1 and 7, at the ten lakhs and lakhs places, respectively.

However, the digits at the ten thousands place in 1712040, 1704382 and 1702497 are 1, 0 and 0.

$\therefore 1712040$ is the largest.

Of the other two numbers, the respective digits at the thousands place are 4 and 2.

Clearly, $4 > 2$

$\therefore 1704382 > 1702497$

201200, 200175 and 199988 are all 6-digit numbers.

At the lakhs place, we have $2 > 1$.

So, 199988 is the smallest of the three numbers.

The other two numbers have the same digits, namely 2 and 0, at the lakhs and ten thousands places, respectively.

However, the digits at the thousands place in 201200 and 200175 are 1 and 0, respectively.

Clearly, $1 > 0$

$\therefore 201200 > 200175$

The given numbers in descending order are:

$1712040 > 1704382 > 1702497 > 201200 > 200175 > 199988$

Q11

Answer :

990357 is 6 digit number.

9873426 and 9874012 are both 7-digit numbers.

Both the numbers have the same digits, namely 9, 8 and 7, at the ten lakhs, lakhs and ten thousands places, respectively.

However, the digits at the thousands place in 9873426 and 9874012 are 3 and 4, respectively.

Clearly, $4 < 7$

$\therefore 9873426 < 9874012$

24615019 and 24620010 are both 8-digit numbers.

Both the numbers have the same digits, namely 2, 4 and 6, at the crores, ten lakhs and lakhs places, respectively.

However, the digits at the ten thousands place in 24615019 and 24620010 are 2 and 1, respectively.

Clearly, $1 < 2$

$\therefore 24615019 < 24620010$

The given numbers in ascending order are:

$990357 < 9873426 < 9874012 < 24615019 < 24620010$

Q12

Answer :

5694437 and 5695440 are both 7-digit numbers.

Both have the same digit, i.e., 5 at the ten lakhs place.

Both have the same digit, i.e., 6 at the lakhs place.

Both have the same digit, i.e., 9 at the ten thousands place.

However, the digits at the thousand place in 5694437 and 5695440 are 4 and 5, respectively.

Clearly, $4 < 5$

$\therefore 5694437 < 5695440$

56943201, 56943300 and 56944000 are all 8-digit numbers.

They have the same digit, i.e., 5 at the crores place.

They have the same digit, i.e., 6 at the ten lakhs place.

They have the same digit, i.e., 9 at the lakhs place.

They have the same digit, i.e., 4 at the ten thousands place.

However, at the thousands place, one number has 4 while the others have 3.

$\therefore 56944000$ is the largest.

The other two numbers have 3 and 2 at their hundreds places.

Clearly, $2 < 3$

$\therefore 56943201 < 56943300$

The given numbers in ascending order are:

$5694437 < 5695440 < 56943201 < 56943300 < 56944000$

Q13

Answer :

700087 is 6-digit number.

8014257, 8014306 and 8015032 are all 7-digit numbers.

They have the same digits, namely 8, 0 and 1, at the ten lakhs, lakhs and ten thousands places, respectively.

But, at the thousands place, one number has 5 while the other two numbers have 4.

Here, 801503 is the largest.

The other two numbers have 2 and 3 at their hundreds places.

Clearly, $2 < 3$

$\therefore 8014306 < 8015032$

10012458 is an 8-digit number.

The given numbers in ascending order are:

$700087 < 8014257 < 8014306 < 8015032 < 10012458$

Q14

Answer :

893245, 893425 and 980134 are all 6-digit numbers.

Among the three, 980134 is the largest.

The other two numbers have the same digits, namely 8, 9 and 3, at the lakhs, ten thousands and thousands places, respectively.

However, the digits at the hundreds place in 893245 and 893425 are 2 and 4, respectively.

Clearly, $2 < 4$

$\therefore 893245 < 893425$

1020216, 1020304 and 1021403 are all 7-digit numbers.

They have the same digits, namely 1, 0 and 2, at the ten lakhs, lakhs and ten thousands places, respectively.

At the thousands place, 1021403 has 1.

The other two numbers have the digits 2 and 3 at their hundreds places.

Clearly, $2 < 3$

$\therefore 1020216 < 1020304$

The given numbers in ascending order are:

$893245 < 893425 < 980134 < 1020216 < 1020304 < 1021403$

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Number System

Exercise 1C

Q1

Answer :

Number of persons who visited the holy shrine in the first year = 13789509
Number of persons who visited the holy shrine in the second year = 12976498
 \therefore Number of persons who visited the holy shrine during these two years = $13789509 + 12976498 = 26766007$

Q2

Answer :

Bags of sugar produced by the first factory in last year = 24809565
Bags of sugar produced by the second factory in last year = 18738576
Bags of sugar produced by the third sugar factory in last year = 9564568
 \therefore Total number of bags of sugar were produced by the three factories during last year = $24809565 + 18738576 + 9564568$

= 53112709

Q3

Answer :

New number = Sum of 37684955 and 3615045
= $37684955 + 3615045$
= 41300000

Q4

Answer :

Total number of votes received by the three candidates = $687905 + 495086 + 93756 = 1276747$
Number of invalid votes = 13849
Number of persons who did not vote = 25467
 \therefore Total number of registered voters = $1276747 + 13849 + 25467$
= 1316063

Q5

Answer :

People who had only primary education = 1623546

People who had secondary education = 9768678

People who had higher education = 6837954

Illiterate people in the state = 2684536

Children below the age of school admission = 698781

\therefore Total population of the state = $1623546 + 9768678 + 6837954 + 2684536 + 698781$
= 21613495

Q6

Answer :

Bicycles produced by the company in the first year = 8765435

Bicycles produced by the company in the second year = $8765435 + 1378689$
= 10144124

\therefore Total number of bicycles produced during these two years = $8765435 + 10144124$
= 18909559

Q7

Answer :

Sale receipts of a company during the first year = Rs 20956480

Sale receipts of the company during the second year = $\text{Rs } 20956480 + \text{Rs } 6709570$
= Rs 27666050

\therefore Total number of sale receipts of the company during these two years = $\text{Rs } 20956480 + \text{Rs } 27666050$
= Rs 48622530

Q8

Answer :

Total population of the city = 28756304

Number of males in the city = 16987059

\therefore Number of females in the city = $28756304 - 16987059$
= 11769245

Q9

Answer :

Required number = $13246510 - 4658642 = 8587868$

\therefore 13246510 is larger than 4658642 by 8587868.

Q10

Answer :

Required number = 1 crore – 564387
= $10000000 - 5643879$
= 4356121

\therefore 5643879 is smaller than one crore by 4356121.

Q11

Answer :

$11010101 - \text{required number} = 2635967$

Thus, required number = $11010101 - 2635967$
= 8374134

\therefore The number 8374134 must be subtracted from 11010101 to get 2635967.

Q12

Answer :

Sum of the two numbers = 10750308

One of the number = 8967519

$$\begin{aligned}\therefore \text{The other number} &= 10750308 - 8967519 \\ &= 1782789\end{aligned}$$

Q13

Answer :

Initial amount with the man = Rs 20000000

Amount spent on buying a school building = Rs 13607085

$$\begin{aligned}\therefore \text{Amount left with the man} &= \text{Rs } 20000000 - \text{Rs } 13607085 \\ &= \text{Rs } 6392915\end{aligned}$$

Q14

Answer :

Money need by the society to buy the property = Rs 18536000

Amount collected as membership fee = Rs 7253840

Amount taken on loan from the bank = Rs 5675450

Amount collected as donation = Rs 2937680

$$\begin{aligned}\therefore \text{Amount of money short} &= \text{Rs } 18536000 - (\text{Rs } 7253840 + \text{Rs } 5675450 + \text{Rs } 2937680) \\ &= \text{Rs } 18536000 - \text{Rs } 15866970 \\ &= \text{Rs } 2669030\end{aligned}$$

Q15

Answer :

Initial amount with the man = Rs 10672540

Amount given to his wife = Rs 4836980

Amount given to his son = Rs 3964790

$$\begin{aligned}\therefore \text{Amount received by his daughter} &= \text{Rs } 10672540 - (\text{Rs } 4836980 + \text{Rs } 3964790) \\ &= \text{Rs } 10672540 - \text{Rs } 8801770 \\ &= \text{Rs } 1870770\end{aligned}$$

Q16

Answer :

Cost of one chair = Rs 1485

$$\begin{aligned}\text{Cost of 469 chairs} &= \text{Rs } 1485 \times 469 \\ &= \text{Rs } 696465\end{aligned}$$

\therefore Cost of 469 chairs is Rs 696465.

Q17

Answer :

Contribution from one student for the charity program = Rs 625

Contribution from 1786 students = Rs 625 x 1786 = Rs 1116250

\therefore Rs 1116250 was collected from 1786 students for the charity program.

Q18

Answer :

Number of screws produced by the factory in one day = 6985

$$\begin{aligned}\text{Number of screws produced in 358 days} &= 6985 \times 358 \\ &= 2500630\end{aligned}$$

\therefore The factory will produce 2500630 screws in 358 days.

Q19

Answer :

We know that

1 year = 12 months

13 years = 13 × 12 = 156 months

Now, we have:

Amount saved by Mr Bhaskar in one month = Rs 8756

Amount saved in 156 months = Rs 8756 × 156 = Rs 1365936

∴ Mr Bhaskar will save Rs 1365936 in 13 years.

Q20

Answer :

Cost of one scooter = Rs 36725

Cost of 487 scooter = Rs 36725 × 487
= Rs 17885075

∴ The cost of 487 scooters will be Rs 17885075.

Q21

Answer :

Distance covered by the aeroplane in one hour = 1485 km

Distance covered in 72 hours = 1485 km × 72 = 106920 km

∴ The distance covered by the aeroplane in 72 hours will be 106920 km.

Q22

Answer :

Product of two numbers = 13421408

One of the number = 364

∴ The other number = $13421408 \div 364$
= 36872

Q23

Answer :

Cost of 36 flats = Rs 68251500

Cost of one flat = $\text{Rs } 68251500 \div 36$
= Rs 1895875

∴ Each flat costs Rs 1895875.

Q24

Answer :

We know that 1 kg = 1000 g

Now, mass of the gas-filled cylinder = 30 kg 250 g = 30.25 kg

Mass of an empty cylinder = 14 kg 480 g = 14.48 kg

∴ Mass of the gas contained in the cylinder = 30.25 kg – 14.48 kg
= 15.77 kg = 15 kg 770 g

Q25

Answer :

We know that 1 m = 100 cm

Length of the cloth = 5 m

Length of the piece cut off from the cloth = 2 m 85 cm

∴ Length of the remaining piece of cloth = 5 m – 2.85 m
= 2.15 m = 2 m 15 cm

Q26

Answer :

We know that 1 m = 100 cm

Now, length of the cloth required to make one shirt = 2 m 75 cm

$$\begin{aligned}\text{Length of the cloth required to make 16 such shirts} &= 2 \text{ m } 75 \text{ cm} \times 16 \\ &= 2.75 \text{ m} \times 16 \\ &= 44 \text{ m}\end{aligned}$$

∴ The length of the cloth required to make 16 shirts will be 44 m.

Q27

Answer :

We know that 1 m = 100 cm

Cloth needed for making 8 trousers = 14 m 80 cm

$$\begin{aligned}\text{Cloth needed for making 1 trousers} &= 14 \text{ m } 80 \text{ cm} \div 8 \\ &= 14.8 \text{ m} \div 8 \\ &= 1.85 \text{ m} = 1 \text{ m } 85 \text{ cm}\end{aligned}$$

∴ 1 m 85 cm of cloth will be required to make one shirt.

Q28

Answer :

We know that 1 kg = 1000 g

Now, mass of one brick = 2 kg 750 g

$$\begin{aligned}\therefore \text{Mass of 14 such bricks} &= 2 \text{ kg } 750 \text{ g} \times 14 \\ &= 2.75 \text{ kg} \times 14 \\ &= 38.5 \text{ kg} = 38 \text{ kg } 500 \text{ g}\end{aligned}$$

Q29

Answer :

We know that 1 kg = 1000 g

Now, total mass of 8 packets of the same size = 10 kg 600 g

$$\begin{aligned}\therefore \text{Mass of one such packet} &= 10 \text{ kg } 600 \text{ g} \div 8 \\ &= 10.6 \text{ kg} \div 8 \\ &= 1.325 \text{ kg} = 1 \text{ kg } 325 \text{ g}\end{aligned}$$

Q30

Answer :

Length of the rope divided into 8 equal pieces = 10 m

$$\begin{aligned}\text{Length of one piece} &= 10 \text{ m} \div 8 \\ &= 1.25 \text{ m} = 1 \text{ m } 25 \text{ cm} \quad [\because 1 \text{ m} = 100 \text{ cm}]\end{aligned}$$

Number System

Exercise 1D

Q1

Answer :

- (i) In 36, the ones digit is $6 > 5$.
∴ The required rounded number = 40
- (ii) In 173, the ones digit is $3 < 5$.
∴ The required rounded number = 170
- (iii) In 3869, the ones digit is $9 > 5$.
∴ The required rounded number = 3870
- (iv) In 16378, the ones digit is $8 > 5$.
∴ The required rounded number = 16380

Q2

Answer :

- (i) In 814, the tens digit is $1 < 5$.
∴ The required rounded number = 800
- (ii) In 1254, the tens digit is $5 = 5$.
∴ The required rounded number = 1300
- (iii) In 43126, the tens digit is $2 < 5$.
∴ The required rounded number = 43100
- (iv) In 98165, the tens digit is $6 > 5$.
∴ The required rounded number = 98200

Q3

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Answer :

(i) In 793, the hundreds digit is $7 > 5$
 \therefore The required rounded number = 1000

(ii) In 4826, the hundreds digit is $8 > 5$
 \therefore The required rounded number = 5000

(iii) In 16719, the hundreds digit is $7 > 5$
 \therefore The required rounded number = 17000

(iv) In 28394, the hundreds digit is $3 < 5$
 \therefore The required rounded number = 28000

Q4

Answer :

(i) In 17514, the thousands digit is $7 > 5$
 \therefore The required rounded number = 20000

(ii) In 26340, the thousands digit is $6 > 5$
 \therefore The required rounded number = 30000

(iii) In 34890, the thousands digit is $4 < 5$
 \therefore The required rounded number = 30000

(iv) In 272685, the thousands digit is $2 < 5$
 \therefore The required rounded number = 270000

Q5

Answer :

57 estimated to the nearest ten = 60
34 estimated to the nearest ten = 30

\therefore The required estimation = $(60 + 30) = 90$

Q6

Answer :

43 estimated to the nearest ten = 40
78 estimated to the nearest ten = 80
 \therefore The required estimation = $(40 + 80) = 120$

Q7

Answer :

14 estimated to the nearest ten = 10
69 estimated to the nearest ten = 70
 \therefore The required estimation = $(10 + 70) = 80$

Q8

Answer :

86 estimated to the nearest ten = 90
19 estimated to the nearest ten = 20
 \therefore The required estimation = $(90 + 20) = 110$

Q9

Answer :

95 estimated to the nearest ten = 100
58 estimated to the nearest ten = 60
 \therefore The required estimation = $(100 + 60) = 160$

Q10

Answer :

77 estimated to the nearest ten = 80

63 estimated to the nearest ten = 60

∴ The required estimation = $(80 + 60) = 140$

Q11

Answer :

356 estimated to the nearest ten = 360

275 estimated to the nearest ten = 280

∴ The required estimation = $(360 + 280) = 640$

Q12

Answer :

463 estimated to the nearest ten = 460

182 estimated to the nearest ten = 180

∴ The required estimation = $(460 + 180) = 640$

Q13

Answer :

538 estimated to the nearest ten = 540

276 estimated to the nearest ten = 280

∴ The required estimation = $(540 + 280) = 820$

Q14

Answer :

236 estimated to the nearest hundred = 200

689 estimated to the nearest hundred = 700

∴ The required estimation = $(200 + 700) = 900$

Q15

Answer :

458 estimated to the nearest hundred = 500

324 estimated to the nearest hundred = 300

∴ The required estimation = $(500 + 300) = 800$

Q16

Answer :

170 estimated to the nearest hundred = 200

395 estimated to the nearest hundred = 400

∴ The required estimation = $(200 + 400) = 600$

Q17

Answer :

3280 estimated to the nearest hundred = 3300

4395 estimated to the nearest hundred = 4400

∴ The required estimation = $(3300 + 4400) = 7700$

Q18

Answer :

5130 estimated to the nearest hundred = 5100

1410 estimated to the nearest hundred = 1400

∴ The required estimation = $(5100 + 1400) = 6500$

Q19

Answer :

10083 estimated to the nearest hundred = 10100

29380 estimated to the nearest hundred = 29400

∴ The required estimation = $(10100 + 29400) = 39500$

Q20

Answer :

32836 estimated to the nearest thousand = 33000
16466 estimated to the nearest thousand = 16000
∴ The required estimation = (33000 + 16000) = 49000

Q21

Answer :

46703 estimated to the nearest thousand = 47000
11375 estimated to the nearest thousand = 11000
∴ The required estimation = (47000 + 11000) = 58000

Q22

Answer :

Number of balls in box A = 54
Number of balls in box B = 79
Estimated number of balls in box A = 50
Estimated number of balls in box B = 80
∴ Total estimated number of balls in both the boxes = (50 + 80) = 130

Q23

Answer :

We have,
53 estimated to the nearest ten = 50
18 estimated to the nearest ten = 20
∴ The required estimation = (50 - 20) = 30

Q24

Answer :

100 estimated to the nearest ten = 100
38 estimated to the nearest ten = 40
∴ The required estimation = (100 - 40) = 60

Q25

Answer :

409 estimated to the nearest ten = 410
148 estimated to the nearest ten = 150
∴ The required estimation = (410 - 150) = 260

Q26

Answer :

678 estimated to the nearest hundred = 700
215 estimated to the nearest hundred = 200
∴ The required estimation = (700 - 200) = 500

Q27

Answer :

957 estimated to the nearest hundred = 1000
578 estimated to the nearest hundred = 600
∴ The required estimation = (1000 - 600) = 400

Q28

Answer :

7258 estimated to the nearest hundred = 7300
2429 estimated to the nearest hundred = 2400
∴ The required estimation = (7300 - 2400) = 4900

Q29

Answer :

5612 estimated to the nearest hundred = 5600

3095 estimated to the nearest hundred = 3100

∴ The required estimation = $(5600 - 3100) = 2500$

Q30

Answer :

35863 estimated to the nearest thousand = 36000

27677 estimated to the nearest thousand = 28000

∴ The required estimation = $(36000 - 28000) = 8000$

Q31

Answer :

47005 estimated to the nearest thousand = 47000

39488 estimated to the nearest thousand = 39000

∴ The required estimation = $(47000 - 39000) = 8000$

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Number System

Exercise 1E

Q1

Answer :

38 estimated to the nearest ten = 40

63 estimated to the nearest ten = 60

∴ The required estimation = $(40 \times 60) = 2400$

Q2

Answer :

54 estimated to the nearest ten = 50

47 estimated to the nearest ten = 50

∴ The required estimation = $(50 \times 50) = 2500$

Q3

Answer :

28 estimated to the nearest ten = 30

63 estimated to the nearest ten = 60

∴ The required estimation = $(30 \times 60) = 1800$

Q4

Answer :

42 estimated to the nearest ten = 40

75 estimated to the nearest ten = 80

∴ The required estimation = $(40 \times 80) = 3200$

Q5

Answer :

64 estimated to the nearest ten = 60

58 estimated to the nearest ten = 60

∴ The required estimation = $(60 \times 60) = 3600$

Q6

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Answer :

15 estimated to the nearest ten = 20

34 estimated to the nearest ten = 30

∴ The required estimation = $(20 \times 30) = 600$

Q7

Answer :

376 estimated to the nearest hundred = 400

123 estimated to the nearest hundred = 100

∴ The required estimation = $(400 \times 100) = 40000$

Q8

Answer :

264 estimated to the nearest hundred = 300

147 estimated to the nearest hundred = 100

∴ The required estimation = $(300 \times 100) = 30000$

Q9

Answer :

423 estimated to the nearest hundred = 400

158 estimated to the nearest hundred = 200

∴ The required estimation = $(400 \times 200) = 80000$

Q10

Answer :

509 estimated to the nearest hundred = 500

179 estimated to the nearest hundred = 200

∴ The required estimation = $(500 \times 200) = 100000$

Q11

Answer :

392 estimated to the nearest hundred = 400

138 estimated to the nearest hundred = 100

∴ The required estimation = $(400 \times 100) = 40000$

Q12

Answer :

271 estimated to the nearest hundred = 300

339 estimated to the nearest hundred = 300

∴ The required estimation = $(300 \times 300) = 90000$

Q13

Answer :

183 estimated upwards = 200

154 estimated downwards = 100

∴ The required product = $(200 \times 100) = 20000$

Q14

Answer :

267 estimated upwards = 300

146 estimated downwards = 100

∴ The required product = $(300 \times 100) = 30000$

Q15

Answer :

359 estimated upwards = 400

76 estimated downwards = 70

∴ The required product = $(400 \times 70) = 28000$

Q16

Answer :

472 estimated upwards = 500

158 estimated downwards = 100

∴ The required product = $(500 \times 100) = 50000$

Q17

Answer :

680 estimated upwards = 700

164 estimated downwards = 100

∴ The required product = $(700 \times 100) = 70000$

Q18

Answer :

255 estimated upwards = 300

350 estimated downwards = 300

∴ The required product = $(300 \times 300) = 90000$

Q19

Answer :

356 estimated downwards = 300

278 estimated upwards = 300

∴ The required product = $(300 \times 300) = 90000$

Q20

Answer :

472 estimated downwards = 400

76 estimated upwards = 80

∴ The required product = $(400 \times 80) = 32000$

Q21

Answer :

578 estimated downwards = 500

369 estimated upwards = 400

∴ The required product = $(500 \times 400) = 200000$

Number System

Exercise 1F

Q1

Answer :

$87 \div 28$ is approximately equal to $90 \div 30 = 3$.

Q2

Answer :

The estimated quotient for $83 \div 17$ is approximately equal to $80 \div 20 = 8 \div 2 = 4$.

Q3

Answer :

The estimated quotient of $75 \div 23$ is approximately equal to $80 \div 20 = 8 \div 2 = 4$.

Q4

Answer :

The estimated quotient of $193 \div 24$ is approximately equal to $200 \div 20 = 20 \div 2 = 10$.

Q5

Answer :

The estimated quotient of $725 \div 23$ is approximately equal to $700 \div 20 = 70 \div 2 = 35$.

Q6

Answer :

The estimated quotient of $275 \div 25$ is approximately equal to $300 \div 30 = 30 \div 3 = 10$.

Q7

Answer :

The estimated quotient of $633 \div 33$ is approximately equal to $600 \div 30 = 60 \div 3 = 20$.

Q8

Answer :

$729 \div 29$ is approximately equal to $700 \div 30$ or $70 \div 3$, which is approximately equal to 23.

Q9

Answer :

$858 \div 39$ is approximately equal to $900 \div 40$ or $90 \div 4$, which is approximately equal to 23.

Q10

Answer :

$868 \div 38$ is approximately equal to $900 \div 40$ or $90 \div 4$, which is approximately equal to 23.

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Number System

Exercise 1G

Q1

Answer :

We may write these numbers as given below:

(i) $2 = \text{II}$

(ii) $8 = (5 + 3) = \text{VIII}$

(iii) $14 = (10 + 4) = \text{XIV}$

(iv) $29 = (10 + 10 + 9) = \text{XXIX}$

(v) $36 = (10 + 10 + 10 + 6) = \text{XXXVI}$

(vi) $43 = (50 - 10) + 3 = \text{XLIII}$

(vii) $54 = (50 + 4) = \text{LIV}$

(viii) $61 = (50 + 10 + 1) = \text{LXI}$

(ix) $73 = (50 + 10 + 10 + 3) = \text{LXXIII}$

(x) $81 = (50 + 10 + 10 + 10 + 1) = \text{LXXXI}$

(xi) $91 = (100 - 10) + 1 = \text{XCI}$

(xii) $95 = (100 - 10) + 5 = \text{XCV}$

(xiii) $99 = (100 - 10) + 9 = \text{XCIX}$

(xiv) $105 = (100 + 5) = \text{CV}$

(xv) $114 = (100 + 10) + 4 = \text{CXIV}$

Q2

Answer :

We may write these numbers in Roman numerals as follows:

(i) $164 = (100 + 50 + 10 + 4) = \text{CLXIV}$

(ii) $195 = 100 + (100 - 10) + 5 = \text{CXC V}$

(iii) $226 = (100 + 100 + 10 + 10 + 6) = \text{CCXXVI}$

(iv) $341 = 100 + 100 + 100 + (50 - 10) + 1 = \text{CCCXLI}$

(v) $475 = (500 - 100) + 50 + 10 + 10 + 5 = \text{CDLXXV}$

(vi) $596 = 500 + (100 - 10) + 6 = \text{DXCVI}$

(vii) $611 = 500 + 100 + 11 = \text{DCXI}$

(viii) $759 = 500 + 100 + 100 + 50 + 9 = \text{DCCLIX}$

Q3

Answer :

We can write the given Roman numerals in Hindu-Arabic numerals as follows:

(i) XXVII = $10 + 10 + 7 = 27$

(ii) XXXIV = $10 + 10 + 10 + 4 = 34$

(iii) XLV = $(50 - 10) + 5 = 45$

(iv) LIV = $50 + 4 = 54$

(v) LXXIV = $50 + 10 + 10 + 4 = 74$

(vi) XCI = $(100 - 10) + 1 = 91$

(vii) XCVI = $(100 - 10) + 6 = 96$

(viii) CXI = $100 + 10 + 1 = 111$

(ix) CLIV = $100 + 50 + 4 = 154$

(x) CCXXIV = $100 + 100 + 10 + 10 + 4 = 224$

(xi) CCCLXV = $100 + 100 + 100 + 50 + 10 + 5 = 365$

(xii) CDXIV = $(500 - 100) + 10 + 4 = 414$

(xiii) CDLXIV = $(500 - 100) + 50 + 10 + 4 = 464$

(xiv) DVI = $500 + 6 = 506$

(xv) DCCLXVI = $500 + 100 + 100 + 50 + 10 + 6 = 766$

Q4

Answer :

(i) VC is wrong because V, L and D are never subtracted.

(ii) IL is wrong because I can be subtracted from V and X only.

(iii) VVII is wrong because V, L and D are never repeated.

(iv) IXX is wrong because X (ten) must be placed before IX (nine).

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Number System

Exercise 1H

Q1

Answer :

Option c is correct.

Place value of 6 = 6 lakhs = $(6 \times 100000) = 600000$

Q2

Answer :

Option a is correct.

The face value of a digit remains as it is irrespective of the place it occupies in the place value chart. Thus, the face value of 4 is always 4 irrespective of where it may be.

Q3

Answer :

Option c is correct.

Place value of 5 = $5 \times 10000 = 50000$

Face value of 5 = 5

\therefore Required difference = $50000 - 5 = 49995$

Q4

Answer :

Option b is correct.

The smallest counting number is 1.

Q5

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Answer :

Option b is correct.

The largest four-digit number = 9999

The smallest four-digit number = 1000

$$\begin{aligned}\text{Total number of all four-digit numbers} &= (9999 - 1000) + 1 \\ &= 8999 + 1 \\ &= 9000\end{aligned}$$

Q6

Answer :

Option b is correct.

The largest seven-digit number = 9999999

The smallest seven-digit number = 1000000

$$\begin{aligned}\text{Total number of seven-digit numbers} &= (9999999 - 1000000) + 1 \\ &= 8999999 + 1 \\ &= 9000000\end{aligned}$$

Q7

Answer :

Option c is correct.

The largest eight-digit number = 99999999

The smallest eight-digit number = 10000000

$$\begin{aligned}\text{Total number of eight-digit numbers} &= (99999999 - 10000000) + 1 \\ &= 89999999 + 1 \\ &= 90000000\end{aligned}$$

Q8

Answer :

Option b is correct.

The number just before 1000000 is 999999 (i.e., $1000000 - 1$).

Q9

Answer :

Option a is correct.

V, L and D are never subtracted. Thus, VX is wrong.

Q10

Answer :

Option c is correct.

I can be subtracted from V and X only. Thus, IC is wrong.