



ST. MARY'S CO-ED SCHOOL, HARDA

ACADEMIC YEAR [2020-21]

CLASS - VI

SUBJECT- MATHS

CHAPTER- 1 [NUMBER SYSTEM]

GLIMPSE OF THE CHAPTER:-

- Notation:- Writing a number in figures is called notation.
- Numeration:- Writing a number in words is called numeration.
- Numeral:- A group of digits, denoting a number is called numeral.
- Face value of a numeral:- The face value of a digit remains as it is, whatever the place it may be occupying in the place value chart.
- Place value of a digit in a numeral:- The place value of a digit in a numeral depends upon the place value it occupies in the place value chart.
- Estimation:- Estimation means to make a guess. Estimation, thus gives us a rough idea of the answer to a question involving operations on answers.

Example:- Estimate the sum $(64+79)$ to the nearest ten.

64 estimated to the nearest ten = 60.

79 estimated to the nearest ten = 80.

Hence, the required estimation = $(60 + 80) = 140$ (Ans)

- Roman numerals:- One of the early systems of writing numerals is the system of the roman numerals.

Roman numerals.	I	V	X	L	C	D	M
Hindu Arabic Numerals	1	5	10	50	100	500	1000

RULES:-

- Only I, X, C, M can be repeated.
- V, L, D are never repeated.
- No symbol can be repeated more than three times.

Example:- Express numbers as a roman numeral.

$174 = (100 + 70 + 4) = \text{CLXXIV}$.

Note:- * This PDF contains only answers, for questions refer text book [R.S. Aggarwal].

* Remaining questions do as Homework.

EXERCISE- 1 A

Question - 1

- (i)The numeral form of nine thousand eighteen is: 9018
- (ii)The numeral form of fifty four thousand seventy-three is 54073
- (iii)The numeral form of three lakh two thousand five hundred six is: 302506
- (iv)The numeral form of twenty lakh ten thousand eight is: 2010008
- (v)The numeral form of six crore five lakh fifty-seven is: 60500057
- (vi)The numeral form of two crore two lakh two thousand two hundred two is: 20202202
- (vii)The numeral form of twelve crore twelve lakh twelve thousand twelve is: 121212012
- (viii)The numeral form of fifteen crore fifty lakh twenty thousand sixty-eight is: 155020068

Question – 2

- (i)The given number is 63,005

It is written as sixty three thousand and five

- (ii)The given number is 7,07,075

It is written as seven lakh seven thousand and seventy five

- (iii)The given number is 34, 20,019

It is written as thirty four lakh twenty thousand and nineteen

- (iv)The given number is 3,05,09,012

It is written as three crore five lakh nine thousand and twelve

- (v)The given number is 5,10,03,604

It is written as five crore ten lakh three thousand six hundred and four

- (vi)The given number is 6,18,05,008

It is written as six crore eighteen lakh five thousand and eight.

Question – 3

(i) The given number is 15,768

The expanded form of 15,768 = $(1 \times 10000) + (5 \times 1000) + (7 \times 100) + (6 \times 10) + (8 \times 1)$

(ii) The given number is 3,08,927

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

(iii) The given number is 24,05,609

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

(iv) The given number is 5,36,18,493

The expanded form of

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

(v) The given number is 6,06,06,006

The expanded form of 6,06,06,006 = $(6 \times 10000000) + (6 \times 100000) + (6 \times 1000) + (6 \times 1)$

Question – 5

The given number is 79520986

Here the place value of nine at lakhs is 9000000 and the place value of nine at hundreds is 900

Therefore required difference is $9000000 - 900 = 8999100$.

Question – 6

The given number is 27650934

Here the place value of 7 in 27650934 is 70 lakhs = 70,00,000

The face value of 7 in 27650934 is 7

Therefore required difference is $70,00,000 - 7 = 69,99,993$.

Question – 7

The largest 6-digit number is 999999

The smallest 6-digit number is 100000

Therefore total number of 6-digit numbers = $(999999 - 100000) + 1$

$= 899999 + 1$

$= 900000 = 9 \text{ lakhs}$.

Question – 9

1 lakh means 1,00,000 which is equal to one hundred thousand

Therefore $1,00,000 = (100 \times 1000)$

Hence one hundred thousand make a lakh

Question – 11

Given number – 738

Reversing its digit- 837

Difference between 738 and 837

$$= 837 - 738$$

$$= 99 \text{ (Ans)}$$

Question – 12

Numbers after 9547999

$$= 9547999 + 1$$

$$= 9548000. \text{ (Ans)}$$

Question – 14

Number just before 10000000

$$= 10000000 - 1$$

$$= 9999999 \text{ (Ans)}$$

Question – 16

The smallest number by using different digit 3, 1, 0, 5 and 7 will be

$$= 10357. \text{ (Ans)}$$

Question – 17

The largest number formed by using different digit 2, 4, 0, 3, 6 and 9 will be

$$= 964320. \text{ (Ans)}$$

EXERCISE – 1 B

Question – 1 to 5

1. $1003467 \square 987965$

Ans: $1003467 > 987965$

2. $3572014 \square 10235401$

Ans: $3572014 < 10235401$

3. $3254790 \square 3260152$

Ans: $3254790 < 3260152$

4. $10357690 \square 11243567$

Ans: $10357690 < 11243567$

5. $27596381 \square 7965412$

Ans: $27596381 > 7965412$

6. $47893501 \square 47894021$

Ans: $47893501 < 47894021$

Question 7 and 8

Ans 7 : The given numbers in the descending order are:

$102345680 > 63521047 > 63514759 > 7355014 > 7354206$.

Ans 8: The given numbers in the descending order are:

$23794206 > 23756819 > 5032790 > 5032786 > 987876$.

Question: 11 to 13

Ans 11: The given numbers in ascending order are:

$990357 < 9873426 < 9874012 < 24615019 < 24620010$.

Ans 12: The given numbers in ascending order are:

$5694437 < 5695440 < 56943201 < 56943300 < 56944000$.

Ans 13: The given numbers in ascending order are:

$700087 < 8014257 < 8014306 < 8015032 < 10012458$.

EXERCISE – 1 C

Question: 1

Ans: Persons visited the shrine in first year = 13789509.

Persons visited the shrine in second year = 12976498.

Therefore number of persons visited the shrine in these two years = $13789509 + 12976498$
 $= 26766007$.

Question: 2

Ans: Number of sugar bags produced by first factory in last year = 24809565.

Number of sugar bags produced by second factory in last year = 18738576.

Number of sugar bags produced by third factory in last year = 9564568.

∴ Total number of sugar bags produced by three factories during last year

$= 24809565 + 18738576 + 9564568$

$= 53112709$.

Question : 3

Ans : Given numbers are 37684955 and 3615045.

∴ Sum of both the numbers = $37684955 + 3615045$

$= 41300000$.

Question: 4

Ans: Number of votes received by three candidates = $687905 + 495086 + 93756 = 1276747$.

Number of invalid votes = 13849.

Number of persons who did not vote = 25467.

∴ Total number of registered votes = $1276747 + 13849 + 25467$

$= 1316063$.

Question: 5

Ans: People having primary education = 1623564

People having secondary education = 9768678

People having higher education = 6837954

People who are illiterate = 2684536

Children below the age of school admission = 698781

∴ Total population in the state = $1623564 + 9768678 + 6837954 + 2684536 + 698781$
= 21613495.

Question – 8

Ans: Total number of population in the city = 28756304.

Total number of males in the city = 16987059.

Hence number of females in the city = $28756304 - 16987059$
= 11769245.

Question – 9

Ans: Given numbers are 13246510 and 4658642

Required number = $13246510 - 4658642$
= 8587868.

Question – 10

Given number is 5643879

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

Hence the number 5643879 is smaller than one crore by the number 4356121

Question : 11

Ans: Given number = 11010101

Required number = 2635967

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

Required number = $11010101 - 2635967$
= 8374134.

Hence the number 8374134 must be subtracted from 11010101 to get 2635967.

Question – 12

Ans: The sum of two numbers = 10750308

Given number = 8967519

Other number = $10750308 - 8967519 = 1782789$

EXCERISE – 1 D

Question: 1

Round each of the following numbers to the nearest ten:

(a) 36

Here 6 is in once digits place

$$6 > 5$$

∴ required rounded number is 40

(b) 173

Here 3 is in once digits place

$$3 < 5$$

∴ required rounded number is 170

(c) 3869

Here 9 is in once digits place

$$9 > 5$$

∴ required rounded number is 3870

Question – 2

Round each of the following numbers to the nearest hundred:

(a) 814

Here tens digits place is 1

$$1 < 5$$

∴ required rounded number is 800

(b) 1254

Here tens digits place is 5

$$5 = 5$$

∴ required rounded number is 1300

(c) 43126

Here tens digits place is 2

$$2 < 5$$

∴ required rounded number is 43100

Question- 3

Round each of the following numbers to the nearest thousand:

(a) Here 7 is in hundred digits place

$$7 > 5$$

∴ required rounded number is 1000

(b) Here 8 is in hundred digits place

$$8 > 5$$

∴ required rounded number is 5000

(c) Here 7 is in hundred digits place

$$7 > 5$$

∴ required rounded number is 17000

Question – 4

Round each of the following numbers to the nearest ten thousand:

(a) Thousand digits number is $7 > 5$

∴ required rounded number is 20000

(b) Thousand digits number is $6 > 5$

∴ required rounded number is 30000

(c) Thousand digit number is $4 < 5$

∴ required rounded number is 30000

Question – 5 and 6

Estimate each sum to the nearest ten:

5. $(57 + 34)$

Estimated value to the nearest ten of $57 = 60$

Estimated value to the nearest ten of $34 = 30$

Total required estimation = $(60 + 30) = 90$ (Ans)

6. $(43 + 78)$

Estimated value to the nearest ten of $43 = 40$

Estimated value to the nearest ten of $78 = 80$

Total required estimation = $(40 + 80) = 120$ (Ans)

Question – 9 to 11

9. $(95 + 58)$

Estimated value to the nearest ten of 95 = 100

Estimated value to the nearest ten of 58 = 60

Total required estimation = $(100 + 60) = 160$. (Ans)

10. $(77 + 63)$

Estimated value to the nearest ten of 77 = 80

Estimated value to the nearest ten of 63 = 60

Total required estimation = $(80 + 60) = 140$ (Ans)

11. $(356 + 275)$

Estimated value to the nearest ten of 356 = 360

Estimated value to the nearest ten of 275 = 280

Total required estimation = $(360 + 280) = 640$ (Ans)

Question – 14, 15, 17 and 18

14. $(236 + 689)$

Estimated value to the nearest hundreds of 236 = 200

Estimated value to the nearest hundreds of 689 = 700

Total required estimation = $(200 + 700)$

= 900

15. $(458 + 324)$

Estimated value to the nearest hundreds of 458 = 500

Estimated value to the nearest hundreds of 324 = 300

Total required estimation = $(500 + 300)$

= 800

17. $(3280 + 4395)$

Estimated value to the nearest hundreds of 3280 = 3300

Estimated value to the nearest hundreds of 4395 = 4400

Total required estimation = $(3300 + 4400) = 7700$

18. $(5130 + 1410)$

Estimated value to the nearest hundreds of 5130 = 5100

Estimated value to the nearest hundreds of 1410 = 1400

Total required estimation = $(5100 + 1400)$

= 6500.

Question- 20 and 21

Estimate each sum to the nearest thousand:

20. $(32836 + 16466)$

Estimated value to the nearest thousands of 32836 = 33000

Estimated value to the nearest thousands of 16466 = 16000

Total required estimation = $(33000 + 16000)$ = 49000

21. $(46703 + 11375)$

Estimated value to the nearest thousands of 46703 = 47000

Estimated value to the nearest thousands of 11375 = 11000

Total required estimation = $(47000 + 11000)$ = 58000.

Question – 22

Total number of balls in box A = 54

Total number of balls in box B = 79

Total number of estimation of balls in box A = 50

Total number of estimation of balls in box B = 80

Total number of estimation of balls in both the boxes = $(50 + 80)$ = 130 (Ans)

Question – 23 and 24

Estimate each difference to the nearest ten:

23. $(53 - 18)$

Estimated value to the nearest ten of 53 = 50

Estimated value to the nearest ten of 18 = 20

$\therefore$ required estimation = $(50 - 20)$ = 30

24. (97 – 38)

Estimated value to the nearest ten of 97 = 100

Estimated value to the nearest ten of 38 = 40

∴ required estimation = (100 – 40) = 60.

Question – 26, 27 and 28.

Estimate each difference to the nearest hundred:

26. (678 – 215)

Estimated value to the nearest hundreds of 678 = 700

Estimated value to the nearest hundreds of 215 = 200

∴ required estimation = (700 – 200) = 500

27. (957 – 578)

Estimated value to the nearest hundreds of 957 = 1000

Estimated value to the nearest hundreds of 578 = 600

∴ required estimation = (1000 – 600) = 400.

28. (7258 – 2429)

Estimated value to the nearest hundreds of 7258 = 7300

Estimated value to the nearest hundreds of 2429 = 2400

∴ required estimation = (7300 – 2400) = 4900

Question – 30 and 31

Estimate each difference to the nearest thousand:

30. (35863 – 27677)

Estimated value to the nearest thousands of 35863 = 36000

Estimated value to the nearest thousands of 27677 = 28000

∴ required estimation = (36000 – 28000) = 8000

31. (47005 – 39488)

Estimated value to the nearest thousands of 47005 = 47000

Estimated value to the nearest thousands of 39488 = 39000

∴ required estimation = (47000 – 39000) = 8000.

EXERCISE – 1 E

Question – 1 to 4

Estimate each of the following products by rounding off each number to the nearest ten:

1. 38×63

Estimated value to the nearest ten of 38 = 40

Estimated value to the nearest ten of 63 = 60

$\therefore$ required estimation = $(40 \times 60) = 2400$.

2. 54×47

Estimated value to the nearest ten of 54 = 50

Estimated value to the nearest ten of 47 = 50

$\therefore$ required estimation = $(50 \times 50) = 2500$.

3. 28×63

Estimated value to the nearest ten of 28 = 30

Estimated value to the nearest ten of 63 = 60

$\therefore$ required estimation = $(30 \times 60) = 1800$.

4. 42×75

Estimated value to the nearest ten of 42 = 40

Estimated value to the nearest ten of 75 = 80

$\therefore$ required estimation = (40×80)

= 3200.

Question- 7 to 10

Estimate each of the following products by rounding off each number to the nearest hundred:

7. 376×123

Estimated value to the nearest hundreds of 376 = 400

Estimated value to the nearest hundreds of 123 = 100

$\therefore$ required estimation = (400×100)

= 40000.

8. 264×147

Estimated value to the nearest hundreds of 264 = 300

Estimated value to the nearest hundreds of 147 = 100

$\therefore$ required estimation = (300×100)

= 30000.

9. 423×158

Estimated value to the nearest hundreds of 423 = 400

Estimated value to the nearest hundreds of 158 = 200

$\therefore$ required estimation = (400×200)

= 80000.

10. 509×179

Estimated value to the nearest hundreds of 509 = 500

Estimated value to the nearest hundreds of 179 = 200

$\therefore$ required estimation = (500×200)

= 100000.

Question – 13 and 14.

Estimate each of the following product by rounding off the first number upwards and the second number downwards.

13. 183×154

183 is rounded off upwards = 200.

154 is rounded off downwards = 100.

$\therefore 200 \times 100 = 20000$. (Ans)

14. 267×146

267 is rounded off upwards = 300.

146 is rounded off downwards = 100.

$\therefore 300 \times 100 = 30000$. (Ans)

Question- 19 and 20

Estimate each of the following product by rounding off the first number downwards and the second number upwards.

19. 356×278 .

356 is rounded off downwards = 300.

278 is rounded off upwards = 300.

$\therefore 300 \times 300 = 90000$. (Ans)

20. 472×76

472 is rounded off downwards = 400.

76 is rounded off upwards = 80.

$\therefore 400 \times 80 = 32000$. (Ans)

EXERCISE- 1 F

Question – 1 to 8

Find the estimated quotient for each of the following:

1. $87 \div 28$

The estimated quotient of $87 \div 28 = 90 \div 30 = 3$.

2. $83 \div 17$

The estimated quotient of $83 \div 17 = 80 \div 20 = 4$.

3. $75 \div 23$

The estimated quotient of $75 \div 23 = 80 \div 20 = 4$.

4. $193 \div 24$

The estimated quotient of $193 \div 24 = 200 \div 20 = 10$.

5. $725 \div 23$

The estimated quotient of $725 \div 23 = 700 \div 20 = 35$.

6. $275 \div 25$

The estimated quotient of $275 \div 25 = 300 \div 30 = 10$.

7. $633 \div 33$

The estimated quotient of $633 \div 33 = 600 \div 30 = 20$.

8. $729 \div 29$

The estimated quotient of $729 \div 29 = 700 \div 30 = 23$ (approximately).

EXERCISE – 1 G

Question – 1 (i to viii)

- (i) Roman number of 2 is written as II
- (ii) Roman number of 8 is written as $(5 + 3) = VIII$
- (iii) Roman number of 14 is written as $(10 + 4) = XIV$
- (iv) Roman number of 29 is written as $(10 + 10 + 9) = XXIX$
- (v) Roman number of 36 is written as $(10 + 10 + 10 + 6) = XXXVI$
- (vi) Roman number of 43 is written as $(50 - 10) + 3 = XLIII$
- (vii) Roman number of 54 is written as $(50 + 4) = LIV$
- (viii) Roman number of 61 is written as $(50 + 10 + 1) = LXI$

Question – 2 (i to viii)

- (i) Roman numeral of 164 = $(100 + 50 + 10 + 4) = CLXIV$.
- (ii) Roman numeral of 195 = $(100) + (100 - 10) + 5 = CXC V$.
- (iii) Roman numeral of 226 = $(100 + 100 + 10 + 10 + 6) = CCXXVI$.
- (iv) Roman numeral of 341 = $100 + 100 + 100 + (50 - 10) + 1 = CCCXLI$.
- (v) Roman numeral of 475 = $(500 - 10) + 50 + 50 + 10 + 10 + 5 = CDLXXV$.
- (vi) Roman numeral of 596 = $500 + (100 - 10) + 6 = DXCVI$.
- (vii) Roman numeral of 611 = $500 + 100 + 11 = DCXI$.
- (viii) Roman numeral of 759 = $500 + 100 + 100 + 59 = DCCLIX$.

Question – 3

- (i) $XXVII = (20 + 7) = 27$.
- (ii) $XXXIV = (30 + 4) = 34$.
- (iii) $XLV = (40 + 5) = 45$.
- (iv) $LIV = (50 + 4) = 54$.
- (v) $LXXIV = (50 + 20 + 4) = 74$.

