STD: VI

MATHEMATICS

Ch - 1: Knowing Our Numbers

Exercise: 1.1

2. Place commas correctly and write the numerals:

a. Seventy three lakh seventy five thousand three hundred seven.

Ans: 73, 75,307

c. Seven crore fifty two lakh twenty one thousand three hundred two.

Ans: 7,52, 21, 302

d. Fifty eight million four hundred twenty three thousand two hundred two.

Ans: 58, 423, 202

3. Insert commas suitably and write the names according to Indian system numeration:

a. 87595762

8, 75,95, 762 →Eight crore seventy five lakh ninety five thousand seven hundred sixty two.

d) 99900046

9,99,00,046→ Nine crore ninety nine lakh forty six

4. Insert commas suitably and write the names according to International system of numeration:

a. 78921092

78,921,092 → seventy eight million nine hundred twenty one thousand ninety two.

d. 48049831

48,049,831 → Forty eight million forty nine thousand eight hundred thirty one.

Exercise - 1.2

2. Shekharis a famous cricket player. He has so far scored 6980 runs in test matches. He wishes to complete 10,000 runs. How many more runs does he need?

* Runs Shekhar wishes to complete → 10,000

Runs Shekhar scored → 6980

Runs Shekhar has to score → ?

→ 10,000 - 6980

→ 3020

Ans: Shekhar needs 3020 more runs to complete 10,000 runs.

3. In an election, the successful candidate registered 5, 77,500 votes and his nearest rival secured 3, 48, 700 votes. By what margin did the successful candidate win the election?

Votes secured by the candidate

I      =      5,77,500

II     =      3,48,700

difference = ?

= 5,77,500 - 3, 48, 700

= 2, 28, 800 votes

Ans: The successful candidate won by 2, 28, 800 votes

4. Kirti bookstore sold books worth Rs 2, 85, 891 in the first week of June and books worth Rs 4,00,768 in the second week of the month. How much was the sale for the two weeks together? In which week was the sale greater and by how much?

* Books sold

I Week →₹ 2, 85, 891

II Week →₹ 4, 00, 768

Total → ?

→ 2, 85, 891 + 4,00,768

→₹ 6,86, 659

II week the sale was greater

difference→ 4,00, 768 - 285891

→₹ 1,14,877

Ans: The sale for the two weeks→₹ 6,86,659

II week the sale was greater.

₹ 1, 14, 877.

5. Find the difference between the greatest and the least number that can be written using the digits 6,2,7, 4, 3 each only once.

* Digits → 6, 2, 7,4,3

Greatest number → 76, 432

Least number→ 23, 467

Difference → ?

→ 76, 432 - 23, 467

→ 52, 965

6. A machine, on an average, manufactures 2, 825 screws a day. How many screws did it produce in the month of January 2006?

* No. of Screws manufactured,

1 day → 2, 825

January 2006 → ?

(31 days) → ?

→ 2,825 × 31

→ 87, 575 screws

Ans: A machine produced 87, 575 screws in the month of January 2006.

7. A merchant had Rs 78,592 with her. She placed an order for purchasing 40 radio sets at Rs 1200 each. How much money will remain with her after the purchase?

*Cost of a radio set →₹ 1200

Cost of 40 radio sets →₹ ?

→ 1200 × 40

→ 48,000

→₹ 48,000

Amount she had       →₹ 78, 592

Amount she spent    →₹ 48,000

Amount left            →₹ ?

→ 78, 592 - 48000

→ 30,592

→₹ 30,592

*Amount remain with her →₹ 30, 592

8. A student multiplied 7236 by 65 instead of multiplying by 56. By how much was his answer greater than the correct answer?

* 7236 by 65

7236 by 56

65 - 56 = 9

7236 by 9

$7236 \times 9 = 65, 124$

Ans: 65,124 was greater than the correct answer.

10. Medicine is packed in boxes, each weighing 4 kg 500 g . How many such boxes can be loaded in a van which cannot carry beyond 800 kg?

* Weight of medicine packed

4 kg 500g → 1 box

(4.500 kg) → 1 box

800 kg → ? boxes

→ $\frac{800}{4.500}$

→ $\frac{800 \times 1000}{4.500 \times 1000}$

= $\frac{800000}{4500}$

= $\frac{8000}{45}$

=177 boxes

Ans: 177 boxes can be loaded in a van.

11. The distance between the school and the house of a student's house is 1km 875m. Everyday she walks both ways. Find the total distance covered by her in six days.

* Distance between

School and house → 1km 875 m

both ways → 1 km 875 m × 2

→ 3km 750m

Distance covered in 6 days → 3 km 750m × 6

→ 22 km 500 m

Ans: Total distance covered in 6 days → 22 km 500 m

Exercise : 1.3

1. Estimate each of the following using general rule:

c. 12904 + 2888

12904 → 13000

2888 → 3000

→ 13000 + 3000

→ 16,000

Ans: 16,000

d. 28,292 - 21,496

28,292 → 28,000

21, 496 → 21,000

→ 28000 - 21000

→ 7000

Ans : 7,000

2. Give a rough estimate (by rounding off to nearest hundreds) and also a closer estimate (by rounding off to nearest tens):

a) 439+334+4317

* Rough estimate [hundreds]

439 → 400

334 → 300

4317 → 4300

→ 400 + 300+4300

→ 5000

* Closer estimate [tens]

439 → 440

334 → 330

4317 → 4320

→ 440 + 330+ 4320

Ans = 5090

d. 4, 89, 348 - 48, 365

* Rough Estimate [hundreds]

4, 89, 348 → 4, 89, 300

48,365 → 48,400

→ 4, 89, 300 - 48,400

→ 4, 40, 900

Ans: 4, 40, 900

* Closer estimate [Tens]

4,89, 348 → 4, 89, 350

48365 → 48370

→ 489350 - 48370

→ 4, 40,980

Ans: 4,40,980

3. Estimate the following products using general rule:

b. 5281 × 3491

5281 → 5000

3491 → 3500

→ 5000 × 3500

→ 1,75,00,000

Ans: 1, 75, 00, 000.

d. 9250 × 29

9250 → 9000

29→ 30

→ 9000 × 30

→ 2, 70, 000

Ans: 2, 70, 000

HOTS:

1. With the digits 2 and 3 make 4 digit numbers using both the digits equal number of times. Find the greatest and the smallest numbers.

* Digits 2 and 3

* 2233, 3322, 2332, 3223, 2323, 3232

* Greatest No: 3322

* Smallest No: 2233

2. How many times does the digit 2 occur in ten's place in the numbers from 100 to 1000?

* 120 to 129 → 10

220 to 229 → 10

320 to 329 → 10

420 to 429 → 10

520 to 529 → 10

620 to 629 → 10

720 to 729 → 10

820 to 829 → 10

920 to 929 → 10

Ans = 90 times

3. I am a three digit number. I am less than 500. I am greater than 200. All my digits are odd. If you take each of my three digits and add them together, they equal 5. What number am I?

Ans: 311     [3+1+1 = 5]

4. What is the minimum and maximum number of digits in the sum of any two four digit number?

*No. of digits

Minimum → 4     [2142 + 3605 → 5747]

* Maximum → 5     [9412 + 7643 → 17055]

Ans: 4, 5

5. Write your Date of birth.
Express in Roman numeral.
Example: 10. 5. 2000
X. V. MM (DD)

## Chapter - 2 Whole numbers
### Exercise - 2.1

1. Write the next three natural numbers after 10999.

*11000, 11001, 11002

2. Write the three whole numbers occurring just before 10001.

*10000, 9999, 9998

3. Which is the smallest whole number?

* 0

4. How many whole numbers are there between 32 and 53.

* 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52.

* Ans: 20

5. Write the successor of:

C. 1099999

1099999 + 1→ 11,00,000

Ans: 11,00,000

d. 2345670

2345670 + 1 → 2345671

Ans: 23, 45, 671

6. Write the predecessor of

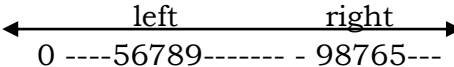b. 10,000

10000 - 1 = 9999

Ans = 9999

c. 208090

208090 - 1 = 208089

Ans: 2, 08, 089

7. In each of the following pairs of numbers, state which whole number is on the left of the other number on the number line? Also, write them with the appropriate sign (>, <) between them.
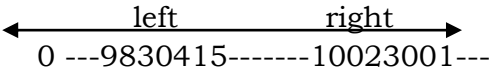
c. 98765, 56789

*


    0 ----56789------- - 98765---

Ans: 56789 is on the left of 98765

* 98765 > 56789

d. 9830415, 10023001

*


    0 ---9830415-------10023001---

* Ans 9830415 is on the left of 10023001.

*10023001 > 9830415

### Exercise: 2.2

1. Find the sum by suitable rearrangement

b.1962 + 453 + 1538 + 647

(1962 + 1538) + (453 + 647)

    3500    +    1100

= 4600

Ans: 4600

2. Find the product by suitable rearrangement:

a. 2 × 1768 × 50

* 2 × 50 × 1768

100 × 1768

1,76,800

Ans: 1,76,800

c. 8 × 291 × 125

8 × 125 × 291

1000 × 291

2, 91, 000

Ans: 2, 91, 000

d. 625 × 279 × 16

625 × 16 × 279

10000 × 279

Ans: 27,90,000

f. 125 × 40× 8 × 25

125 × 40 × 8 × 25

5000 × 200

10,00,000

Ans: 10,00,000

3. Find the value of the following:

a. 297 × 17 + 297 × 3

297 × (17 + 3)

297 × 20

5940

Ans: 5,940

c. 81265 × 169 - 81265 × 69

81265 × (169 - 69)

81265 × 100

8126500

Ans: 81,26,500

d. 3845 × 5 × 782 + 769 × 25 × 218

3845 × 5 × 782 + 769 × 25 × 218

19225 × 782 × 19225 × 218

19225 × (782 + 218)

19225 × 1000

19225000

Ans: 1, 92, 25, 000

4. Find the product using suitable properties.

b. 854 × 102

854 × (100 + 2)

854 × 100 + 854 × 2

85400 + 1708

Ans: 87108

C. 258 × 1008

258 × (1000 + 8)

258 × 1000 + 258 × 8

28000 + 2064

=260064

Ans: 260064

5. A taxi driver filled his car petrol tank with 40 litres of petrol on Monday. The next day, he filled the tank with 50 litres of petrol. If the petrol costs ₹ 44 per litre, how much did he spend in all on petrol?

* Quantity of petrol filled,

On Monday → 40$l$

On Tuesday → 50$l$

Cost of 1 litre petrol →₹ 44

Amount spent on Petrol = 44 × (40 + 50)

= 44 × 90

= ₹ 3,960

Amount spent on Petrol →₹ 3,960.

Ex - 2.3

1. Which of the following will not represent zero.

a. 1+0

*1+0 = 1

b. 0 × 0

* 0 × 0 = 0

c. $\frac{0}{2}$

*$\frac{0}{2}$ = 0

d. $\frac{10-10}{2}$

*$\frac{10-10}{2}$ = 0

Ans: 0

3. If the product of two whole numbers is 1. Can we say that one or both of them will be 1? Justify though examples.

* $1 \times 1 = 1$

Both of them will be 1.

4. Find using distributive property

b. $5437 \times 1001$

$5437 \times (1000+1)$

$5437 \times 1000 + 5437 \times 1$

$543700+5437$

$5442437$

Ans: 54, 42, 437

d. $4275 \times 125$

$4275 \times 125$

$4275 \times \frac{1000}{8}$ $\qquad [\frac{1000}{8}=125]$

$\frac{4275000}{8}= 5,34,375$

Ans: 5,34,375

e. $504 \times 35$

$504 \times 35$

$504 \times \frac{70}{2}$ $\qquad [\frac{70}{2} = 35]$

$\frac{35280}{2}=17,640$

Ans: 17,640

HOTS:

1. Fill in the blank cells of magic squares such that sum of numbers in each row, column or diagonal being the same.

| ? | ? | 50 |
|---|---|----|
| 29 | ? | 57 |
| ? | ? | 22 |

* $50+57+22 = 129$

*$129 - (29+57) = 43$

*$129 - (50 + 43) = 36$

*$129 - (36 + 22) = 71$

*$129 - (71 + 43) = 15$

*$129 - (50 + 15) = 64$

Ans:

| 64 | 15 | 50 |
|----|----|----|
| 29 | 43 | 57 |
| 36 | 71 | 22 |

2. Take 3 four times and use the signs +, -, $\times$ , $\div$ with them, so that the results are first 1, then 2 and then 3.

* $[\{(3\div3) \times 3\} - 3]$

$[\{1 \times 3\} - 3]$

$[3 -3]=0$

Ans = 0

*$[\{(3+3) -3\}\div3]$

$[\{6-3\} \div3]$

$[3\div3] = 1$

Ans =1

*$[\{(3 \times 3) - 3\} \div 3]$

$[\{9-3\} \div 3]$

$[6 \div3] = 2$

Ans=2

*$[\{(3+3)+3\}\div3]$

$[\{6+3\} \div3]$

$[9\div3]=3$

Ans = 3

3. Find the number with which 82 is multiplied so that product remains the same.

Ans = 1 $[82 \times 1 = 82]$

4. Find the product of first twenty five whole numbers

Ans = 0 $[0\times 1 \times 2 .....24]$