KNOWING OUR NUMBERS

EXERCISE 1.1

Q.1 Fill in the blanks:

(a) 1 lakh = _____ ten thousand. **(b) 1 million = _____ hundred thousand.**

(c) 1 crore = _____ ten lakh. **(d) 1 crore = _____ million.**

(e) 1 million = _____ lakh.

Sol. (a) 1 lakh = 10 ten thousand. (b) 1 million = 10 hundred thousand.

(c) 1 crore = 10 ten lakh. (d) 1 crore = 10 million.

(e) 1 million = 10 lakh.

Q.2 Place commas correctly and write the numerals:

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

(b) Nine crore five lakh forty one.

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

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

(e) Twenty three lakh thirty thousand ten.

Sol. (a) 73,75,307 (b) 9,05,00,041 (c) 7,52,21,302

(d) 58,423,202 (e) 23,30,010

Q.3 Insert commas suitably and write the names according to Indian System of Numeration:

(a) 87595762 (b) 8546283 (c) 99900046 (d) 98432701

Sol. (a) 8,75,95,762 : Eight crore seventy five lakh ninety five thousand seven hundred sixty two

(b) 85,46,283 : Eighty five lakh forty six thousand two hundred eighty three

(c) 9,99,00,046 : Nine crore ninety nine lakh forty six

(d) 9,84,32,701 : Nine crore eighty four lakh, thirty two thousand seven hundred one

Q.4 Insert commas suitably and write the names according to International System of Numeration:

(a) 78921092 (b) 7452283 (c) 99985102 (d) 48049831

Sol. (a) 78,921,092 : Seventy eight million nine hundred twenty one thousand ninety two

(b) 7,452,283 : Seven million four hundred fifty two thousand two hundred eighty three

(c) 99,985,102 : Ninety nine million nine hundred eighty five thousand one hundred two

(d) 48, 049,831 : Forty eight million forty nine thousand eight hundred thirty one

EXERCISE 1.2

Q.1 A book exhibition was held for four days in a school. The number of tickets sold at the counter on the first, second, third and final day was respectively 1094, 1812, 2050 and 2751. Find the total number of tickets sold on all the four days.

Sol. Number of tickets sold on the first day = 1094,

the second day = 1812, the third day = 200, the fourth day = 2751

$\therefore$ Total number of tickets sold on all the four days = 1094 + 1812 + 2050 + 2751 = 7707.

Q.2 Shekhar is 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?

Sol. Number of runs scored by Shekhar so far = 6,980

Target of runs to be scored = 10,000

$\therefore$ Number of runs needed more = 10,000 – 6,980 = 3,020

Q.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?

Sol. Number of votes secured by the successful candidate = 5,77,500

Number of votes secured by his rival = 3,48,700

$\therefore$ Margin of votes = 5,77,500 – 3,48,700 = 2,28,800

Q.4 Kirti bookstore sold books worth ₹ 2,85,891 in the first week of June and books worth ₹ 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?

Sol. Sale of books in

1st week = ₹ 2,85,891

2nd week = ₹ 4,00,768

Total sale for the two weeks together = ₹ 2,85,891 + ₹ 4,00,768 = ₹ 6,86,659.

Obviously, the sale was greater in the second week by ₹ 4,00,768 – ₹ 2,85,891 i.e. by ₹ 1,14,877.

Q.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.

Sol. Given digits are 6, 2, 7, 4 and 3.

Greatest number made by using these digits = 76,432

Smallest number made by using these digits = 23,467

$\therefore$ Difference = Greatest number – Smallest number = 76,432 – 23,467 = 52,965

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

Sol. Number of days in January 2006 = 31;

Number of screws manufactured in one day = 2,825

Number of screws manufactured in 31 days = 31 × 2,825 = 87,575

Number of screws manufactured in the month of January 2006 = 87,575.

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

Sol. Number of radio sets to be purchased = 40; Cost of radio set = ₹ 1200

∴ Cost of 40 radio set = 40 × ₹ 1200 = ₹ 48,000

∴ Total money with the merchant = ₹ 78,592

∴ Money left with the merchant after the purchase of 40 radio sets

= ₹ 78,592 – ₹ 48,000 = ₹ 30,592

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

Sol. The required multiplication = 7236 × 56

The multiplication done by the student = 7236 × 65

∴ Difference = (7236 × 65) – (7236 × 56) = 7236 (65 – 56) = 7236 × 9 = 65124

Thus, his answer is 65124 more than the correct answer.

Q.9 To stitch a shirt, 2 m 15 cm cloth is needed. Out of 40 m cloth, how many shirts can be stitched and how much cloth will remain?

Sol. Cloth required to stitch 1 shirt = 2 m 15 cm = 200 cm + 15 cm = 215 cm. [∵1 m = 100 cm]

Total cloth required = 40 m = 40 × 100 cm = 4000 cm.

Since, and 130 cm = 1 m 30 cm

```
      18
215 ) 4000
     -215
     1850
    -1720
      130
```

Thus, 18 shirts can be stitched and cloth left over is 1m 30 cm.

Q.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?

Sol. Weight of 1 box = 4 kg 500 g = 4000 g + 500 g [∵1 kg = 1000 g]

= 4500 g

Maximum weight which can be loaded = 800 kg = 800 × 1000 g = 800000 g.

Since, 800000 = 4500 × 177 + 3500

177 boxes can be loaded in the van.

```
      177
4500 ) 80000
      -4500
       35000
      -31500
        35000
       -31000
         3500
```

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

Sol. Distance between school and house = 1 km 875 m = 1000 m + 875 m [$\because$ 1 km = 1000 m]
= 1875 m

$\therefore$ Distance covered by the student both ways between the school and house in one day
= 2 × 1875 m = 3750 m

Thus, distance covered in 6 days = 6 × 3750 m = 22500 m = 22 km 500 m

Q.12 A vessel has 4 litres and 500 m*l* of curd. In how many glasses, each of 25 m*l* capacity, can it be filled?

Sol. Since, 4 litres 500 m*l* = (4 × 1000) m*l* + 500 m*l* [$\because$ 1 *l* = 1000 m*l*]
= 4000 m*l* + 500 m*l* = 4500 m*l*

Capacity of 1 glass = 25 m*l*

4500 = 25 × 180

Thus, 180 glasses can be filled.

$$25\overline{)4500}\quad 180$$
$$-25$$
$$200$$
$$-200$$
$$00$$
$$00$$
$$0$$

EXERCISE 1.3

Q.1 Estimate each of the following using general rule:

(a) 730 + 998 (b) 796 – 314 (c) 12,904 + 2,888 (d) 28,292 – 21,496

Make ten more such examples of addition, subtraction and estimation of their outcome.

Sol. (a) 730 + 998

730 rounds off to 700 [Rounding off to hundreds]

998 rounds off to 1000 [Rounding off to hundreds]

Estimated sum = 700 + 1,000 = 1,700

(b) 796 – 314

796 rounds off to 800 [Rounding off to hundreds]

314 rounds off to 300 [Rounding off to hundreds]

Estimated difference = 800 – 300 = 500

(c) 12,904 + 2,888

12904 rounds off to 13000 [Rounding off to hundreds]

2888 rounds off to 3000 [Rounding off to thousands]

Estimated sum = 13,000 + 3,000 = 16,000

(d) 28,292 – 21,496

28292 rounds off to 28000 [Rounding off to hundreds]

21496 rounds off to 21000 [Rounding off to hundreds]

Estimated sum = 28,000 – 21,000 = 7,000

Q.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 + 4,317 (b) 1,08,734 – 47,599 (c) 8325 – 491 (d) 4,89,348 – 48,365

Sol. (a) 439 + 334 + 4,317

Since

$$\left.\begin{array}{l} 439 \to 400 \\ 334 \to 300 \\ 4317 \to 4300 \end{array}\right\} \quad \text{[Rounding off to hundreds]}$$

$\therefore$ Rough estimate = 439 + 334 + 4,317 = 5,000

Again,

$$\left.\begin{array}{l} 439 \to 440 \\ 334 \to 330 \\ 4317 \to 4320 \end{array}\right\} \quad \text{[Rounding off to tens]}$$

$\therefore$ Closer estimate = 440 + 330 + 4,320 = 5,090

(b) 1,08,734 – 47,599

Since

$$\left.\begin{array}{l} 108734 \to 108700 \\ 47599 \to 47600 \end{array}\right\} \quad \text{[Rounding off to hundreds]}$$

$\therefore$ Rough estimate = 1,08,700 – 47,600 = 61,100

Again,

$$\left.\begin{array}{l} 1,08,734 \to 1,08,700 \\ 47,599 \to 47,600 \end{array}\right\} \quad \text{[Rounding off to tens]}$$

$\therefore$ Closer estimate = 1,08,730 – 47,600 = 61,130

(c) 8325 – 491

Since,

$$\left.\begin{array}{l} 8325 \to 8300 \\ 491 \to 500 \end{array}\right\} \quad \text{[Rounding off to hundreds]}$$

$\therefore$ Rough estimate = 8,300 – 500 = 7,800

Again,

$$\left.\begin{array}{l} 8325 \to 8330 \\ 491 \to 490 \end{array}\right\} \quad \text{[Rounding off to tens]}$$

$\therefore$ Closer estimate = 8,330 – 490 = 7,840

(d) 4,89,348 – 48,365

Since

489348 → 489300 } [Rounding off to hundreds]
48365 → 48400 }

∴ Rough estimate = 4,89,300 – 48,400 = 4,40,900

Again,

489348 → 489350 } [Rounding off to tens]
48365 → 48370 }

∴ Closer estimate = 4,89,350 – 48,370 = 4,40,980

Q.3 Estimate the following products using general rule:

(a) 578 × 161 (b) 5281 × 3491 (c) 1291 × 592 (d) 9250 × 29

Sol. (a) 578 × 161

578 → 600 [Rounding off to hundreds]

161 → 200 [Rounding off to hundreds]

∴ Estimated product = 600 × 200 = 1,20,000

(b) 5281 × 3491

5281 → 5000 [Rounding off to thousands]

3491 → 3500 [Rounding off to hundreds]

∴ Estimated product = 5,000 × 3,500 = 1,75,00,000

(c) 1291 × 592

1291→1300 [Rounding off to hundreds]

592 → 600 [Rounding off to hundreds]

∴ Estimated product = 1,300 × 600 = 7,80,000

(d) 9250 × 29

9250 → 9300 [Rounding off to hundreds]

29 → 30 [Rounding off to tens]

∴ Estimated product = 9,300 × 30 = 2,79,000