

## Exercise 1.1 - Page 1.7

## 1. Write each of the following in numeral form:

- I. Eight thousand twelve.
- II. Seventy thousand fifty three.
- III. Five lakh seven thousand four hundred six.
- IV. Six lakh two thousand nine.
- V. Thirty lakh eleven thousand one.
- VI. Eight crore four lakh twenty five.
- VII. Three crore three lakh three thousand three hundred three.
- VIII. Seventeen crore sixty lakh thirty thousand fifty seven.

## Solution:

- I. Eight thousand twelve: **8012**
- II. Seventy thousand fifty three: **70,053**
- III. Five lakh seven thousand four hundred six: **5,07,406**
- IV. Six lakh two thousand nine: **6,02,009**
- V. Thirty lakh eleven thousand one: **30,11,001**
- VI. Eight crore four lakh twenty five: **8,04,00,025**
- VII. Three crore three lakh three thousand three hundred three: **3,03,03,303**
- VIII. Seventeen crore sixty lakh thirty thousand fifty seven: **17,60,30,057**

## 2. Write the following numbers in words in the Indian system of numeration:

- I. 42,007
- II. 4,05,045
- III. 35,42,012
- IV. 7,06,04,014
- V. 25,05,05,500
- VI. 5,50,50,050
- VII. 5,03,04,012

**Solution:**

- I. 42,007: **Forty two thousand seven.**
- II. 4,05,045: **Four lakh five thousand forty five.**
- III. 35,42,012: **Thirty five lakh forty two thousand twelve.**
- IV. 7,06,04,014: **Seven crore six lakh four thousand fourteen.**
- V. 25,05,05,500: **Twenty five crore five lakh five thousand five hundred.**
- VI. 5,50,50,050: **Five crore fifty lakh fifty thousand fifty.**
- VII. 5,03,04,012: **Five crore three lakh four thousand twelve.**

**3. Insert commas in the correct positions to separate periods and write the following numbers in words:**

- I. 4375
- II. 24798
- III. 857367
- IV. 9050784
- V. 10105607
- VI. 10000007
- VII. 910107104

**Solution:**

- I. 4,375
- II. 24,798
- III. 8,57,367
- IV. 90,50,784
- V. 1,01,05,607
- VI. 1,00,00,007
- VII. 91,01,07,104

**4. Write each of the following in expanded notation:**

- I. 3057
- II. 12345
- III. 10205
- IV. 235060

**Solution:**

- I.  $3057 = 3 \times 1000 + 0 \times 100 + 5 \times 10 + 7 \times 1$
- II.  $12345 = 1 \times 10000 + 2 \times 1000 + 3 \times 100 + 4 \times 10 + 5 \times 1$
- III.  $10205 = 1 \times 10000 + 0 \times 1000 + 2 \times 100 + 0 \times 10 + 5 \times 1$
- IV.  $235060 = 2 \times 100000 + 3 \times 10000 + 5 \times 1000 + 0 \times 100 + 6 \times 10 + 0 \times 1$

**5. Write the corresponding numeral for each of the following:**

- I.  $7 \times 1000 + 2 \times 1000 + 5 \times 100 + 9 \times 10 + 6 \times 1$
- II.  $4 \times 100000 + 5 \times 1000 + 1 \times 100 + 7 \times 1$
- III.  $8 \times 1000000 + 3 \times 1000 + 6 \times 1$
- IV.  $5 \times 10000000 + 7 \times 1000000 + 8 \times 1000 + 9 \times 10 + 4$

**Solution:**

- I.  $7 \times 1000 + 2 \times 1000 + 5 \times 100 + 9 \times 10 + 6 \times 1 = \mathbf{72,596}$
- II.  $4 \times 100000 + 5 \times 1000 + 1 \times 100 + 7 \times 1 = \mathbf{4,05,107}$
- III.  $8 \times 1000000 + 3 \times 1000 + 6 \times 1 = \mathbf{80,03,006}$
- IV.  $5 \times 10000000 + 7 \times 1000000 + 8 \times 1000 + 9 \times 10 + 4 = \mathbf{5,70,08,094}$

**6. Find the place value of the digit 4 in each of the following:**

- I. 74983160
- II. 8745836

**Solution:**

- I. The place value of digit 4 in 74983160 is  $4 \times 10,00,000 = \mathbf{40,00,000}$

II. The place value of digit 4 in 8745836 is  $4 \times 10,000 = 40,000$

**7. Determine the product of the place values of two fives in 450758.**

**Solution:**

The number 450758 has two fives:

1. The first five from the right is in the ten's place.
2. The second five from the right is in the ten thousand's place.

The place value of the first five is  $5 \times 10 = 50$ .

The place value of the second five is  $5 \times 10,000 = 50,000$ .

Now, we find the product of these two place values:  $50 \times 50,000 = 25,00,000$

Therefore, the product of the place values of two fives in 450758 is 25,00,000.

**8. Determine the difference of the place values of two 7's in 257839705.**

**Solution:**

The number 257839705 has two sevens:

1. The first seven from the right side is in the hundreds place.
2. The second seven from the right is in the ten lakh's place.

The place value of first seven is  $7 \times 100 = 700$

The place value of second seven is  $7 \times 10,00,000 = 70,00,000$

Now, we find the difference of these two place values =  $70,00,000 - 700 = 69,99,300$

Therefore, the difference of the place values of two 7's in 257839705 is 69,99,300.

**9. Determine the difference between the place value and the face value of 5 in 78654321.**

**Solution:**

To determine the difference between the place value and the face value of 5 in the number 78654321, we need to identify the place value and the face value of the digit 5.

The face value of five = 5

The place value of five in the ten thousands place is  $5 \times 10,000 = 50,000$

Now, we find the difference =  $50,000 - 5 = 49,995$

Therefore, the difference between the place value and the face value of 5 in 78654321 is **49,995**.

**10. Which digits have the same face value and place value in 92078634?**

**Solution:**

Face value is the actual value of the digit and Place value is the value of a digit based on its position in the given number.

For the digit 4:

- Face value: 4
- Place value:  $4 \times 1$

The digit that has the same face value and place value is **4**.

Therefore, in the number 92078634, the digit 4 has the same face value and place value.

**11. How many different 3-digit numbers can be formed by using the digits 0, 2, 5 without repeating any digit in the number?**

**Solution:**

Understanding the problem:

- We have 3 digits: 0, 2, and 5.
- We need to form 3-digit numbers.
- No digit can be repeated.

Here, 0 cannot be in the hundreds place, as it would make it a 2-digit number.

So, the different 3-digit numbers which can be formed by using the digits 0, 2, 5 without repeating any digit in the number are 205, 250, 502 and 520.

Therefore, **four** 3-digit numbers can be formed by using the digits 0, 2, 5.

**12. Write all possible 3-digit numbers using the digits 6, 0, 4 when**

- I. repetition of digits is not allowed
- II. repetition of digits is allowed.

**Solution:**

To form 3-digit numbers using the digits 6, 0, and 4 without repetition, we need to consider that the first digit (hundreds place) cannot be 0. Therefore, the first digit can be either 6 or 4.

Hence, the possible 3 digit numbers using the digits 6, 0, 4 when:

- I. Repetition of digits is not allowed: **604, 640, 406 and 460.**
- II. Repetition of digits is allowed: **400, 406, 460, 466, 444, 404, 440, 446, 464, 600, 604, 640, 644, 646, 664, 606, 660 and 666.**

**13. Fill in the blank:**

- I. 1 lakh = ..... Ten thousand
- II. 1 lakh = ..... Thousand
- III. 1 lakh = ..... Hundred
- IV. 1 lakh = ..... ten
- V. 1 crore = ..... ten lakh
- VI. 1 crore = ..... lakh
- VII. 1 crore = ..... Ten thousand
- VIII. 1 crore = ..... thousand
- IX. 1 crore = ..... Hundred
- X. 1 crore = ..... Ten

**Solution:**

- I. 1 lakh = 10 Ten thousand
- II. 1 lakh = 100 Thousand
- III. 1 lakh = 1000 Hundred
- IV. 1 lakh = 10000 Ten

- V. 1 crore = 10 ten lakh
- VI. 1 crore = 100 lakh
- VII. 1 crore = 1000 Ten thousand
- VIII. 1 crore = 10000 thousand
- IX. 1 crore = 100000 Hundred
- X. 1 crore = 1000000 Ten

### Exercise 1.2 - Page 1.13

1. Write each of the following numbers in digits by using international place value chart. Also, write them in expanded form

- I. Seven million three hundred three thousand two hundred six.
- II. Fifty five million twenty nine thousand seven.
- III. Six billion one hundred ten million three thousand seven.

**Solution:**

- I. Seven million three hundred three thousand two hundred six  
Digit form: 7,303,206  
Expanded form:  $7 \times 1000000 + 3 \times 100000 + 0 \times 10000 + 3 \times 1000 + 2 \times 100 + 0 \times 10 + 6 \times 1$
- II. Fifty five million twenty nine thousand seven  
Digit form: 55,029,007  
Expander form:  $5 \times 10000000 + 5 \times 1000000 + 0 \times 100000 + 2 \times 10000 + 9 \times 1000 + 0 \times 100 + 0 \times 10 + 7 \times 1$
- III. Six billion one hundred ten million three thousand seven  
Digit form: 6,110,003,007  
Expanded form:  $6 \times 1000000000 + 1 \times 100000000 + 1 \times 10000000 + 0 \times 1000000 + 0 \times 100000 + 0 \times 10000 + 3 \times 1000 + 0 \times 100 + 0 \times 10 + 7 \times 1$

**2. Rewrite each of the following numerals with proper commas in the international system of numeration. Also, write the number name of each in the international system of numeration**

- I. 513625
- II. 4035672
- III. 65954923
- IV. 70902005

**Solution:**

- I. 513,625 = Five hundred thirteen thousand six hundred twenty five in the international system of numeration.
- II. 4,035,672 = Four million thirty five thousand six hundred seventy two in the international system of numeration.
- III. 65,954,923 = Sixty five million nine hundred fifty four thousand nine hundred twenty three in the international system of numeration.
- IV. 70,902,005 = Seventy million nine hundred two thousand five in the international system of numeration.

**3. Write each of the following numbers in the International system of numeration:**

- I. Forty three lakh four thousand eighty four.
- II. Six crore thirty four lakh four thousand forty four.
- III. Seven lakh thirty five thousand eight hundred ninety nine only.

**Solution:**

Using the International system of numeration:

- I. 4,304,084 = Four million three hundred four thousand eighty four
- II. 63,404,044 = Sixty three million four hundred four thousand forty four
- III. 735,899 = Seven hundred thirty five thousand eight hundred ninety nine



**4. Write the following numbers in the Indian system of numeration:**

- I. Six million five hundred forty three thousand two hundred ten.
- II. Seventy six million eighty five thousand nine hundred eighty seven.
- III. Three hundred twenty five million four hundred seventy nine thousand eight hundred thirty eight.

**Solution:**

Using the Indian system of numeration:

- I. 65,43,210 = sixty five lakh forty three thousand two hundred ten
- II. 7,60,85,987 = Seven crore sixty lakh eighty five thousand nine hundred eighty seven
- III. 32,54,79,838 = Thirty two crore fifty four lakh seventy nine thousand eight hundred thirty eight

**5. A certain nine digit number has only ones in ones period, only twos in the thousands period and only threes in millions period. Write this number in words in the Indian system.****Solution:**

It is given that

- The number has 9 digits.
- Ones period: all digits are 1 (so, 111)
- Thousands period: all digits are 2 (so, 222)
- Millions period: all digits are 3 (so, 333)

So combining the periods we get 333,222,111

In the Indian system we can write it as 33,32,22,111 = Thirty three crore thirty two lakh twenty two thousand one hundred and eleven using the Indian system.

## 6. How many thousands make a million?

### Solution:

We know that

- 1 thousand = 1,000
- 1 million = 1,000,000

To find out how many thousands are in a million, we divide 1 million by 1 thousand:

$$1,000,000 \div 1,000 = 1,000$$

Hence, there are 1,000 thousands in a million.

## 7. How many millions make a billion?

### Solution:

We know that

- One million = 1,000,000
- One billion = 1,000,000,000

To find out how many millions are in a billion, we divide 1 billion by 1 million:

$$1,000,000,000 \div 1,000,000 = 1000$$

Hence, there are 1,000 millions in a billion.

## 8. I. How many lakhs make a million? II. How many lakhs make a billion?

### Solution:

#### I. How many lakhs make a million?

- One lakh is equal to 100,000.
- One million is equal to 1,000,000.

To find out how many lakhs make a million, we divide a million by a lakh:

- $1,000,000 / 100,000 = 10$

So, there are **10 lakhs in a million.**

**II.** How many lakhs make a billion?

- One lakh is equal to 100,000.
- One billion is equal to 1,000,000,000.

To find out how many lakhs make a billion, we divide a billion by a lakh:

- $1,000,000,000 / 100,000 = 10,000$

So, there are **10,000 lakhs in a billion.**

**9.** Write each of the following in numeral form:

- Eight million seven hundred eight thousand four.
- Six hundred seven million twelve thousand eighty four.
- Four billion twenty five million forty five thousand.

**Solution:**

- $8 \times 1,000,000 + 7 \times 100,000 + 0 \times 10,000 + 8 \times 1000 + 0 \times 100 + 0 \times 10 + 4 \times 1 = \mathbf{8,708,004}$
- $6 \times 100,000,000 + 0 \times 10,000,000 + 7 \times 1,000,000 + 0 \times 100,000 + 1 \times 10,000 + 2 \times 1000 + 0 \times 100 + 8 \times 10 + 4 \times 1 = \mathbf{607,012,084}$
- $4 \times 1,000,000,000 + 0 \times 100,000,000 + 2 \times 10,000,000 + 5 \times 1,000,000 + 0 \times 100,000 + 4 \times 10,000 + 5 \times 1000 + 0 \times 100 + 0 \times 10 + 0 \times 1 = \mathbf{4,025,045,000}$

10. Write the number names of each of the following in international system of numeration:

- I. 435,002
- II. 1,047,509
- III. 59,064,523
- IV. 25,201,905

**Solution:**

Using the International system of numeration:

- I. 435,002 = Four hundred thirty five thousand and two
- II. 1,047,509 = One million forty seven thousand five hundred and nine
- III. 59,064,523 = Fifty nine million sixty four thousand five hundred and twenty three
- IV. 25, 201, 905 = Twenty five million two hundred one thousand nine hundred and five

### Exercise 1.3 - Page 1.16

1. How many four-digit numbers are there in all?

**Solution:**

The smallest four-digit number is 1000.

The largest four-digit number is 9999.

To find the total number of four-digit numbers, we can subtract the smallest from the largest and then add 1:

$$\text{Total four-digit numbers} = (9999 - 1000) + 1 = 8999 + 1 = 9000.$$

Hence, 9000 four digit numbers are there in all.

**2. Write the smallest and the largest six digit numbers. How many numbers are between these two.**

**Solution:**

The smallest six digit number is 100000

The largest six digit number is 999999

To find the number of numbers between these two, we subtract the smallest from the largest and then subtract 1 (since we don't include the smallest number in the count):

$$\text{Number of numbers between} = 999,999 - 100,000 - 1 = 899,998$$

Hence, the smallest six digit number is 100000, the largest six digit number is 999999 and 899998 numbers are between these two numbers.

**3. How many 8-digit numbers are there in all?**

**Solution:**

The smallest eight-digit number is 10,000,000.

The largest eight-digit number is 99,999,999.

To find the total number of eight-digit numbers, we can subtract the smallest from the largest and then add 1:

$$99,999,999 - 10,000,000 + 1 = 90,000,000$$

Therefore, there are 90,000,000 eight-digit numbers in all.

**4. Write 10075302 in words and rearrange the digits to get the smallest and the largest numbers.**

**Solution:**

To get the smallest number, we arrange the digits in ascending order:

Digits: 1, 0, 0, 7, 5, 3, 0, 2

Rearranged in ascending order: 0, 0, 0, 1, 2, 3, 5, 7

The smallest number is:  $00012357 = 12357$

To get the largest number, we arrange the digits in descending order:

Digits: 1, 0, 0, 7, 5, 3, 0, 2

Rearranged in descending order: 7, 5, 3, 2, 1, 0, 0, 0

The largest number is: 75321000

So, the smallest number is **12357** and the largest number is **75321000**.

**5. What is the smallest 3-digit number with unique digits?**

**Solution:**

**102**

The smallest digit that can be used in the hundreds place (to ensure it is a 3-digit number) is 1.

And the next smallest digits are 0 and 2.

Therefore, the smallest 3-digit number with unique digits is: **102**

**6. What is the largest 5-digit number with unique digits?**

**Solution:**

To find the largest 5-digit number with unique digits, we need to use the largest possible digits in descending order.

The largest digit is 9, followed by 8, 7, 6, and 5.

Therefore, the largest 5-digit number with unique digits is: **98765**

7. Write the smallest 3-digit number which does not change if the digits are in reverse order.

**Solution:**

**101**

This number reads the same forwards and backwards, making it the smallest 3-digit number that does not change when its digits are reversed.

8. Find the difference between the number 279 and that obtained on reversing its digits.

**Solution:**

The reverse of 279 is 972.

Now, we calculate the difference between 279 and 972:

$$972 - 279 = 693$$

Hence, the difference between the number 279 and the number obtained by reversing its digits is **693**.

9. Form the largest and smallest 4-digit numbers using each of digits 7, 1, 0, 5 only once.

**Solution:**

To get the largest 4 digit number, we arrange the digits in descending order = 7510

To get the smallest 4 digit number, we arrange the digits in ascending order = 1057

Hence, the largest 4-digit number using the digits 7, 1, 0, and 5 is **7510**, and the smallest 4-digit number using the same digits is **1057**.

Exercise 1.4 - Page 1.18

1. Put the appropriate symbol ( $<$ ,  $>$ ) in each of the following boxes:

- I. 102394  99887
- II. 2507324  2517324
- III. 3572014  10253104
- IV. 47983505  47894012

Solution:

- I. 102394  $>$  99887
- II. 2507324  $<$  2517324
- III. 3572014  $<$  10253104
- IV. 47983505  $>$  47894012

2. Arrange the following numbers in ascending order:

- I. 102345694, 8354208, 6539542, 63547201, 12345678
- II. 1808090, 1808088, 181888, 190909, 16060666

Solution:

- I. 6539542  $<$  8354208  $<$  12345678  $<$  63547201  $<$  102345694
- II. 181888  $<$  190909  $<$  1808088  $<$  1808090  $<$  16060666

3. Arrange the following numbers in descending order:

- I. 56943300, 56943201, 5695440, 56944000, 5694437
- II. 1020216, 1020308, 1021430, 893245, 893425

Solution:

- I. 56944000  $>$  56943300  $>$  56943201  $>$  5695440  $>$  5694437
- II. 1021430  $>$  1020308  $>$  1020216  $>$  893425  $>$  893245



**Exercise 1.5 - Page 1.21**

**1. How many milligrams make one kilogram?**

**Solution:**

$$1 \text{ kilogram (kg)} = 1,000 \text{ grams (g)}$$

$$1 \text{ gram (g)} = 1,000 \text{ milligrams (mg)}$$

$$\begin{aligned} \text{Therefore 1 kg} &= 1000 \times 1000 \text{ milligrams (mg)} \\ &= 10,00,000 \text{ mg} \end{aligned}$$

So, there are **10,00,000 milligrams** in one kilogram.

**2. A box of medicine tablets contains 2,00,000 tablets each weighing 20mg. What is the total weight of all the tablets in the box in grams? In kilograms?**

**Solution:**

The box contains 2,00,000 tablets, and each tablet weighs 20 mg.

$$\text{Total weight in mg} = 2,00,000 \text{ tablets} \times 20 \text{ mg/tablet}$$

$$\text{Total weight in mg} = 40,00,000 \text{ mg}$$

Since 1 gram (g) = 1,000 milligrams (mg), we convert the total weight to grams:

$$\text{Total weight in g} = 40,00,000 \text{ mg} / 1,000 \text{ mg/g} = 4,000 \text{ g}$$

Since 1 kilogram (kg) = 1,000 grams (g), we convert the total weight to kilograms:

$$\text{Total weight in kg} = 4,000 \text{ g} / 1,000 \text{ g/kg} = 4 \text{ kg}$$

Hence, the total weight of all the tablets in the box is: **4,000 grams or 4 kilograms**

3. Population of Sundarnagar was 2,35,471 in the year 1991. In the year 2001 it was found to have increased by 72,958. What was the population of the city in 2001?

**Solution:**

To find the population of Sundarnagar in the year 2001, we need to add the increase in population to the population in 1991.

Population in 1991 = 2,34,471

Increase in Population = 72,958

$$\begin{aligned}\text{Population in 2001} &= \text{Population in 1991} + \text{Increase in Population} \\ &= 2,35,471 + 72,958 \\ &= 3,08,429\end{aligned}$$

Hence, the population of Sundarnagar in the year 2001 was **3,08,429**.

4. 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 days were respectively 1094, 1812, 2050 and 2751. Find the total number of tickets sold on all the four days.

**Solution:**

To find the total number of tickets sold on all four days, we need to add the number of tickets sold on each day.

Number of tickets sold in first day = 1094

Second day = 1812

Third day = 2050

Final day = 2751

Total number of tickets sold =  $1094 + 1812 + 2050 + 2751 = 7707$

Hence, the total number of tickets sold on all four days is **7,707**.

5. The town newspaper is published everyday. One copy has 12 pages. Everyday 11,980 copies are printed. How many pages are in all printed everyday? Every month?

**Solution:**

Number of pages per copy = 12 pages

Number of copies printed every day = 11,980 copies

Therefore, total number of pages printed every day =  $12 \times 11,980$   
= 143,760 pages per day

Assuming a month has 30 days

Total pages per month = Total pages per day  $\times$  Number of days in a month  
=  $143,760 \times 30$   
= 43,12,800 pages per month

Hence, **143,760** pages are printed everyday and **43,12,800** pages are printed every month.

6. A machine, on an average, manufactures 2825 screws a day. How many screws did it produce in the month of January 2006?

**Solution:**

January has 31 days.

Given that, Average number of screws produced per day = 2,825

So the total number of screws produced in January 2006:

Total screws = Number of screws per day  $\times$  Number of days in January  
=  $2,825 \times 31$   
= 87,575

Hence, the machine produced **87,575** screws in the month of January 2006.

7. A famous cricket player has so far scored 6978 runs in test matches. He wishes to complete 10,000 runs. How many more runs does he need?

Solution:

Given that, Runs scored by a famous cricket player = 6978 runs

Target runs = 10,000 runs

So the runs needed to reach the target = Target runs - Runs scored so far

$$\begin{aligned}\text{Runs needed} &= 10,000 - 6978 \\ &= 3022\end{aligned}$$

Hence, the cricket player needs **3022** more runs to complete 10,000 runs.

8. Ravish has ₹ 78,592 with him. He placed an order for purchasing 39 radio sets at ₹ 1234 each. How much money will remain with him after the purchase?

Solution:

Given that, the money Ravish has = ₹ 78,592

Cost of one radio set = ₹ 1234

Number of radio sets = 39

$$\begin{aligned}\text{Total cost of radio sets} &= \text{Number of radio sets} \times \text{Cost of one radio set} \\ &= ₹ (1234 \times 39) \\ &= ₹ 48,126\end{aligned}$$

$$\begin{aligned}\text{Money Remaining After the Purchase} &= \text{Money Ravish has} - \text{Total cost of the radio sets} \\ &= 78,592 - 48,126 \\ &= ₹ 30,466\end{aligned}$$

Hence, Ravish will have **₹ 30,466** remaining after the purchase.

9. In an election, the successful candidate registered 5,77,570 votes and his nearest rival secured 3,48,685 votes. By what margin did the successful candidate win the election?

**Solution:**

Given that, Votes Received by the Successful Candidate: 5,77,570

Votes Received by the Nearest Rival: 3,48,685

Margin of Victory:

Margin of victory = Votes received by the successful candidate – Votes received by the nearest rival

$$= 5,77,570 - 3,48,685$$

$$= 2,28,885$$

Therefore, the successful candidate won the election by a margin of **2,28,885** votes.

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

**Solution:**

First convert the given measurements into single units.

$$\text{Length of cloth} = 40\text{m} = 4,000\text{cm}$$

$$\text{Length of cloth required to stitch a shirt} = 2\text{m } 15\text{cm} = 200 + 15 = 215\text{cm}$$

To find out how many shirts can be stitched, we divide the total cloth available by the cloth needed for one shirt:

$$4,000\text{cm} / 215\text{cm} = 18.60 \text{ shirts}$$

Since we can't stitch a fraction of a shirt, we can only stitch 18 full shirts.

To find out how much cloth will remain, we multiply the number of shirts that can be stitched by the cloth needed for one shirt and subtract that from the total cloth available:

Cloth used for 18 shirts = 18 shirts \* 215 cm per shirt = 3870 cm

Cloth remaining = Total cloth - Cloth used for 18 shirts  
Cloth remaining  
= 4,000cm - 3870cm = 130cm

So, **18 shirts can be stitched, and 130 cm (or 1 m 30 cm) of cloth will remain.**

11. A vessel has 4 litre and 650ml of curd. In how many glasses, each of 25ml capacity, can it be distributed?

**Solution:**

First, we need to convert the total amount of curd into milliliters (ml) because the capacity of the glasses is given in milliliters.

1 liter = 1000 milliliters.

Therefore, 4 liters = 4000 milliliters.

Now, add the additional 650 milliliters to the 4000 milliliters:

$$4000 \text{ ml} + 650 \text{ ml} = 4650 \text{ ml}$$

Now, we need to divide the total amount of curd by the capacity of each glass to find out how many glasses can be filled:

$$4650 \text{ ml} / 25 \text{ ml per glass} = 186 \text{ glasses}$$

So, the curd can be distributed into **186 glasses** of 25 ml capacity each.

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

**Solution:**

First, we need to convert the weight of each box into a single unit for easier calculation

Capacity of van carrying medicine boxes = 800kg

Since, 1kg = 1000g

Weight of each box = 4kg 500g = 4500g

Capacity of van carrying medicine boxes = 800kg = 8,00,000g

To find out how many boxes can be loaded into the van, we divide the total weight the van can carry by the weight of one box:

$800,000 \text{ grams} / 4500 \text{ grams per box} = 177.777\dots \text{ boxes}$

Number of boxes should be a whole number, we can only load 177 full boxes.

To ensure we don't exceed the weight limit of the van, we should check if adding another box would exceed the limit:

Weight of 177 boxes =  $177 \times 4500 = 7,96,500\text{g}$

Weight of 178 boxes =  $178 \times 4500 = 8,01,000\text{g}$

Since 801,000 grams is more than the van's limit of 800,000 grams, we can only load 177 boxes. Therefore, **177 boxes** can be loaded in a van which cannot carry beyond 800kg.

**13. The distance between the school and the house of a student is 1km 875m. Everyday she walks both ways between her school and home. Find the total distance covered by her in a week.**

**Solution:**

Given that, Distance between the school and the house = 1km 875m = 1,875m

The student walks this distance twice a day (to school and back home), so the daily distance covered is:  $1,875\text{m} \times 2 = 3,750\text{m}$

So, total distance covered in a week (7 days) =  $7 \times 3,750 = 26,250\text{m} = 26\text{km } 250\text{m}$

Therefore, the student covers a total distance of **26km 250m** in a week.

### Exercise 1.6 - Page 1.23

#### 1. Write the expression for each of the following statements using brackets:

- I. Four multiplied by the sum of 13 and 7.
- II. Eight multiplied by the difference of four from nine.
- III. Divide the difference of twenty eight and seven by 3.
- IV. The sum of 3 and 7 is multiplied by the difference of twelve and eight.

#### Solution:

- I. Four multiplied by the sum of 13 and 7:  **$4 \times (13 + 7)$**
- II. Eight multiplied by the difference of four from nine:  **$8 \times (9 - 4)$**
- III. Divide the difference of twenty eight and seven by 3:  **$(28 - 7) \div 3$**
- IV. The sum of 3 and 7 is multiplied by the difference of twelve and eight:  **$(3 + 7) \times (12 - 8)$**

#### 2. Simplify each of the following:

- I.  $124 - (12 - 2) \times 9$
- II.  $(13 + 7) \times (9 - 4) - 18$
- III.  $210 - (14 - 4) \times (18 + 2) - 10$

#### Solution:

I.  $124 - (12 - 2) \times 9$

First, simplify the expression inside the parentheses:

$$= 124 - 10 \times 9$$

Next, perform multiplication:

$$= 124 - 90$$

Finally, perform subtraction:

$$= 34$$



II.  $(13 + 7) \times (9 - 4) - 18$

First, simplify the expressions inside the parentheses:

$$= 20 \times 5 - 18$$

Next, perform the multiplication:

$$= 100 - 18$$

Finally, perform the subtraction:

$$= 82$$

III.  $210 - (14 - 4) \times (18 + 2) - 10$

First, simplify the expressions inside the parentheses:

$$= 210 - 10 \times 20 - 10 = 210 - 200 - 10$$

Next, perform multiplication:

$$= 210 - 200 - 10$$

Finally, perform the subtraction:

$$= 210 - 200 - 10 = 10 - 10 = 0$$

**Exercise 1.7 - Page 1.24**

Simplify each of the following:

1.  $7 \times 109$

2.  $6 \times 112$

3.  $9 \times 105$

4.  $17 \times 109$

5.  $16 \times 108$

6.  $12 \times 105$

7.  $102 \times 103$

8.  $101 \times 105$

9.  $109 \times 107$

**Solution:**

1.  $7 \times 109$

$$\begin{aligned} 7 \times 109 &= 7 \times (100 + 9) \\ &= 7 \times 100 + 7 \times 9 = 700 + 63 \\ &= \mathbf{763} \end{aligned}$$

2.  $6 \times 112$

$$\begin{aligned} 6 \times 112 &= 6 \times (100 + 12) \\ &= 6 \times 100 + 6 \times 12 = 600 + 72 \\ &= \mathbf{672} \end{aligned}$$

3.  $9 \times 105$

$$\begin{aligned} 9 \times 105 &= 9 \times (100 + 5) \\ &= 9 \times 100 + 9 \times 5 = 900 + 45 \\ &= \mathbf{945} \end{aligned}$$

4.  $17 \times 109$

$$\begin{aligned} 17 \times 109 &= 17 \times (100 + 9) \\ &= 17 \times 100 + 17 \times 9 = 1700 + 153 \\ &= \mathbf{1853} \end{aligned}$$

5.  $16 \times 108$

$$\begin{aligned} 16 \times 108 &= 16 \times (100 + 8) \\ &= 16 \times 100 + 16 \times 8 = 1600 + 128 \\ &= \mathbf{1728} \end{aligned}$$

6.  $12 \times 105$

$$\begin{aligned} 12 \times 105 &= 12 \times (100 + 5) \\ &= 12 \times 100 + 12 \times 5 = 1200 + 60 \\ &= \mathbf{1260} \end{aligned}$$

7.  $102 \times 103$

$$\begin{aligned} 102 \times 103 &= (100 + 2) \times (100 + 3) \\ &= 100 \times 100 + 100 \times 3 + 2 \times 100 + 2 \times 3 = 10000 + 300 + 200 + 6 \\ &= \mathbf{10506} \end{aligned}$$

8.  $101 \times 105$

$$101 \times 105 = (100 + 1) \times (100 + 5)$$

$$= 100 \times 100 + 100 \times 5 + 1 \times 100 + 1 \times 5 = 10000 + 500 + 100 + 5$$
$$= \mathbf{10605}$$

9.  $109 \times 107$

$$109 \times 107 = (100 + 9) \times (100 + 7)$$
$$= 100 \times 100 + 100 \times 7 + 9 \times 100 + 9 \times 7 = 10000 + 700 + 900 + 63$$
$$= \mathbf{11663}$$

**Objective Type Questions - Page 1.25**

Mark the correct alternative in each of the following:

1. The difference between the place value and face value of 8 in 658742 is

- (a) 0      (b) 42      (c) 735      (d) 7992

**Solution: (d)**

1. Place Value of 8:

- The digit 8 is in the thousands place.
- The place value of 8 in the number 658742 is  
 $8 \times 1000 = 8000$ .

2. Face Value of 8:

- The face value of a digit is simply the digit itself.
- The face value of 8 is 8.

Difference between Place Value and Face Value:

$$\text{Difference} = \text{Place Value} - \text{Face Value} = 8000 - 8 = 7992$$

So, the difference between the place value and face value of 8 in 658742 is 7992.

Therefore, the correct answer is: (d) 7992

2. The difference between the place values of 6 and 3 in 256839 is

- (a) 3      (b) 9      (c) 6800      (d) 5970

**Solution: (d)**

1. Place Value of 6:

- The digit 6 is in the thousands place.
- The place value of 6 in the number 256839 is  $6 \times 1000 = 6000$ .

2. Place Value of 3:

- The digit 3 is in the tens place.
- The place value of 3 in the number 256839 is  $3 \times 10 = 30$ .

Difference between the Place Values:

$$\text{Difference} = \text{Place Value of 6} - \text{Place Value of 3} = 6000 - 30 = 5970$$

Therefore, the correct answer is: (d) 5970

3. The difference of the smallest three digit number and the largest two digit number is

- (a) 100      (b) 1      (c) 10      (d) 99

**Solution: (b)**

The smallest three-digit number is 100.

The largest two-digit number is 99.

Difference between the Smallest Three-Digit Number and the Largest Two-Digit Number:

$$= 100 - 99 = 1$$

Therefore, the correct answer is: (b) 1

4. The largest three digit number formed by the digits 8, 5, 9 is

- (a) 859      (b) 985      (c) 958      (d) 589

**Solution: (b)**

To form the largest three-digit number using the digits 8, 5, and 9, we need to arrange the digits in descending order.

The digits are 8, 5, and 9.

Arranging them in descending order gives us 9, 8, 5, which gives: 985

Therefore, the correct answer is: (b) 985

**5. The smallest three digit number having three distinct digits is**

- (a) 123      (b) 101      (c) 102      (d) 201

**Solution: (c)**

We know the smallest three digit numbers are 0, 1 and 2

- The smallest digit for the hundreds place is 1 (since it must be a three-digit number).
- The smallest digit for the tens place, distinct from 1, is 0.
- The smallest digit for the units place, distinct from both 1 and 0, is 2.

Hence, 102 is the smallest three digit number.

**6. The largest three digit number having distinct digits is**

- (a) 987 (b) 789 (c) 999 (d) 900

**Solution: (a)**

The largest three digit, distinct numbers are 7, 8 and 9. Arranging these numbers in descending order gives us 987.

Therefore, the largest three-digit number having distinct digits is 987.

**7. The difference between the largest three digit number and the largest three digit number with distinct digits is**

- (a) 10 (b) 0 (c) 12 (d) 13

**Solution: (c)**

The largest three-digit number is 999.

The largest three-digit number with distinct digits is 987 (as we determined earlier).

Difference between them =  $999 - 987 = 12$

Therefore, the correct answer is: (c) 12

**8. The product of the place values of two threes in 53432 is**

- (a) 9000      (b) 90000      (c) 10000      (d) 99000

**Solution: (b)**

1. Place Value of the First 3:

- The first 3 is in the tens place.
- The place value of the first 3 is  $3 \times 10 = 30$

2. Place Value of the Second 3:

- The second 3 is in the thousands place.
- The place value of the second 3 is  $3 \times 1000 = 3000$

Product of the Place Values: Product =  $30 \times 3000 = 90000$

Therefore, the correct answer is: (b) 90000

**9. The smallest counting number is**

- (a) 0 (b) 1 (c) 10 (d) None of these

**Solution: (b)**

The smallest digit is zero and the smallest counting number is 1.

**10. The total number of 4 digit numbers is**

- (a) 8999 (b) 9000 (c) 8000 (d) 9999

**Solution: (b)**

The smallest four digit number is 1,000.

The Largest four digit number is 9,999.

To find the total number of four-digit numbers, we subtract the smallest four-digit number from the largest four-digit number and add 1 (to include both endpoints).

$$= (9,999 - 1,000) + 1 = 9,000$$

Therefore, the correct answer is: (b) 9000

**11. The number of 3 digit numbers formed by using digits 3, 5, 9, taking each digit exactly once, is**

- (a) 3      (b) 4      (c) 5      (d) 6

**Solution: (d)**

If the hundreds place is 3, the remaining digits are 5 and 9: 359, 395

If the hundreds place is 5, the remaining digits are 3 and 9: 539, 593

If the hundreds place is 9, the remaining digits are 3 and 5: 935, 953

So the possible 3-digit numbers are 359, 395, 539, 593, 935 and 953.

**12. Which of the following numbers is equal to 1 billion?**

- (a) 10 lakh      (b) 1 crore      (c) 10 crore      (d) 100 crore

**Solution: (d)**

1 billion = 100 crore

**13. In the international place value system, we write one million for**

- (a) 1 lakh      (b) 10 lakh      (c) 100 lakh      (d) 1 crore

**Solution: (b)**

One million = 10 lakh