RD SHARMA

Solutions

Class 6 Maths

Chapter 1

Ex 1.3

Q1. How many four – digit numbers are there in all?

Sol :

There are 10 digits i.e., 0, 1, 2, 3, 4, 5, 6 ,7, 8, 9.

We cannot use '0' at thousand's place.

So, we can use only 9 digits at thousand's place.

Also, we can use 10 digits at hundred's, 10 digits at ten's and 10 digits at unit's place.

So, total numbers of four-digit numbers = 9 x 10 x 10 x 10 = 9000

Q2. Write the smallest and the largest six digit numbers. How many numbers are between these two.

Sol :

The smallest digit is 0. But we cannot use 0 at the place having the highest place value in six digit numbers. So, we will use the second smallest digit i.e., 1. All other places are filled by 9.

Hence, the required number = 100000

Smallest six digit number will be 100000.

The largest digit is 9.

We can use 9 at any place. In fact , we can use 9 in all places in six digit numbers.

Hence, the required number = 999999

Largest six digit number will be 999999

Required difference = 999999 – 100000 = 899999

So, the total numbers between 999999 and 100000 will be 899998.

Q3. How many 8 – digit numbers are there in all ?

Sol :

There are 10 digits i.e., 0, 1, 2, 3, 4, 5, 6 ,7, 8, 9.

We cannot use '0' at the place having the highest place value in 8 digit numbers.

So, we can use only 9 digits at the place having the highest place value in 8 digit numbers.

Also, we can use 10 digits at the remaining places in 8 digit numbers So, total numbers of 8-digit numbers = 9 x 10 x 10 x 10 x 10 x 10 x 10 x 10 = 90000000

Q4. Write 10075302 in words and rearrange the digits to get the smallest and the largest numbers.

Sol :

One crore seventy-five thousand three hundred two.

In order to write the smallest 8-digit number using digits 0, 1, 2, 3, 5 and 7, we put the smallest digit 1 (Except 0) at the place having the highest place value. The largest digit 7 is put at the rightmost place i.e. at unit's place, the digit 5 is put at the ten's place, the digit 3 is put at the hundred's place and the digit 2 is put at the thousand's place. All other places are filled by 0. Hence, the required largest number is 10002357.

In order to write the largest 8-digit number using digits 0, 1, 2, 3, 5 and 7, we put the largest digit 7 at the place having the highest place value. The smallest digit 5 is put at the place after the highest place value. We put the next smallest digit (i.e., 3) after the previous one. After it we place the next smallest digit (i.e., 2) and after that we put the digit 1. All other places are filled by 0. Hence, the required largest number is 75321000.

Q5. What is smallest 3-digit number with unique digits?

Sol :

The smallest three-digit number with unique digits is 102.

Q6. What is the largest 5- digits number with unique digits?

Sol :

The largest five – digit number with unique digits 98,765.

Q7. Write is smallest 3-digit number which does not change if the digits are written in reverse order.

Sol :

The smallest three – digit number that does not change if the digits are written in reverse order is 101.

Q8. Find the difference between the number 279 and that obtained on reversing its digits.

Sol :

The number obtained on reversing 279 = 972

Difference = 972 – 279 = 693

Thus, the difference between 279 and that obtained on reversing its digits is 693.

Q9. Form the largest and smallest 4- digit numbers using each of digits 7,1,0,5 only once.

Sol :

The largest and smallest four- digit numbers formed using 7,1,0 and and 5are 7,510 and 1,057.