

Knowing our Numbers: Exercise 1.1

Solutions

Questions 1-13

1. Ninja comic stores have 12450 comic books in total. There was a sale on the weekend for three consecutive days. The total number of comic books sold on Friday was 1927. The sale of comic books on Saturday was 4098 and on Sunday it was 6100. Find out the number of comic books sold on the weekend sale, and the number of comic books left after the sale at Ninja comic books?
2. Number of people who like cricket in a sports club is 2548 and a total number of people liking football in the same club is 7000. How many more people should like cricket to reach the number of people liking football?
3. The population of a city Bilaspur in Chhattisgarh is 3,30,000 and the population of its capital city Raipur is 10,10,000. How many more people live in Raipur city compared to Bilaspur?
4. In a socks manufacturing company in Delhi, the number of socks manufactured in the month of April are 32,478 whereas the number of socks manufactured in the month of May is double than that of April. Find out the difference between the numbers of socks manufactured in each month.
5. Find the difference between the greatest and least 6-digit number that can be written using the digits 8, 9, 4, 3, 2, 1 each only once.
6. The number of bulbs manufactured in a day is 1698. How many bulbs were manufactured in the month of November 2020?
7. Cost of a washing machine is ₹8000. The shop owner wants to purchase 67 washing machines and he has a sum of Rs 6,00,000. After purchasing the required washing machines, how much money will remain with him?
8. A student multiplied 5971 by 87 instead of 78. By how much was his answer greater than the correct answer? (Hint: Do you need to do both the multiplications?)
9. For stitching a dress 5m 15 cm cloth is needed. Out of 50 m of cloth how many dresses can be stitched and how much cloth will remain?
10. Total number of chocolates in a box is 15. There are 750 boxes in total, the cabinet in which chocolates have to be stored has only 1100 slots. Find out how many more or less chocolates are in total?

11. The distance between sector 1 and sector 3 is 2 km 650 meters. A bus travels both ways in a day. How much distance does the bus cover in six days?
12. A tank has 60 liters and 500 ml of red paint. In how many boxes of 1300 ml capacity, can it be filled?
13. Take two numbers 4 and 5. Using these two numbers make a 4-digit number using both the digit equal number of times. Find a) greatest 4-digit number using given numbers b) Smallest 4-digit number using given numbers c) How many different numbers can you make in all?

Solutions (1-13)

1. Ninja comic stores have 12450 comic books in total. There was a sale on the weekend for three consecutive days. The total number of comic books sold on Friday was 1927. The sale of comic books on Saturday was 4098 and on Sunday it was 6100. Find out the number of comic books sold on the weekend sale, and the number of comic books left after the sale at Ninja comic books?

Solution 1:

Total number of comic books in Ninja Store = 12450

Number of comic books sold on Friday = 1927

Number of comic books sold on Saturday = 4098

Number of comic books sold on Sunday = 6100

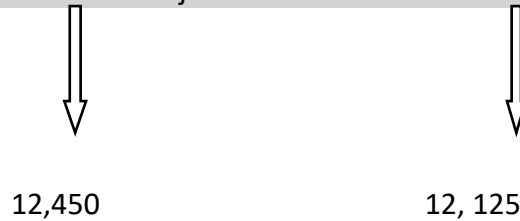
Total number of comic books sold on the weekend sale= Sum of the number of comic books (sold on Friday + sold on Saturday + sold on Sunday) = (1927 + 4098 + 6100 = 12,125)

$$\begin{array}{r} 1927 \\ + 4098 \\ + 6100 \\ \hline 12,125 \end{array}$$

The total number of comic book sold on the weekend sale is 12,125

The number of comic books left at the Ninja comic book store =

(Total number of comic books in Ninja store – Total number of sales on the weekend sale)



$$\begin{array}{r} 12450 \\ - 12125 \\ \hline 325 \end{array}$$

Answer: The total number of comic books left after the weekend sale is 325.

2. In a sports club the number of people who like cricket are 2548 and a total number of people who like football in the same club are 7000. How many more people should like cricket to reach the number of people liking football?

Solution 2:

Number of People who like cricket in the sports club = 2548

Number of people who like football in the sports club = 7000

Difference between the number of people who like football and who like cricket = (7000 – 2548)

$$\begin{array}{r} 7000 \\ - 2548 \\ \hline 4452 \end{array}$$

Answer: The number of people who like football is 4,452 more than the number of people who like cricket. Therefore, 4,452 more people should like cricket to reach the number of people who like football.

3. The population of a city Bilaspur in Chhattisgarh is 3,30,000 and the population of its capital city Raipur is 10,10,000. How many more people live in Raipur city compared to Bilaspur?

Solution 3:

Number of people living in Bilaspur city = 3,30,000

Number of people living in Raipur city = 10,10,000

Number of people living in Raipur city compared to Bilaspur city = (People living in Raipur city – People living in Bilaspur city)

$$\begin{array}{r} 1010000 \\ - 330000 \\ \hline 680000 \end{array}$$

Answer: The number of more people living in Raipur city compared to Bilaspur is 6, 80,000.

4. In a socks manufacturing company in Delhi, the number of socks manufactured in the month of April are 32,478 whereas the number of socks manufactured in the month of May is double than that of April. Find out the difference between the numbers of socks manufactured in each month.

Solution 4:

Socks manufactured in the month of April = 32, 478

Socks manufacture in the month of December in the same year = Double the number of socks manufacture in the month of April

$$\begin{aligned} \text{Socks manufactured in December} &= 2 \times (\text{Socks manufactured in April}) \\ &= 2 \times 32478 = 64,956 \end{aligned}$$

To find out the difference between Sock manufactured in December and April = (Socks manufactured in December – Socks manufactured in April)

$$\begin{array}{r} 64956 \\ - 32478 \\ \hline 32478 \end{array}$$

Answer: Difference between the number of socks manufactured between December and April is 32,478. You can see that it is the same number again. Actually there is no calculation needed here. If you double a number and subtract the original number from that, you will again get the original number.

5. Find the difference between the greatest and least 6-digit number that can be written using the digits 8, 9, 4, 3, 2, 1 each only once.

Solution 5:

The greatest 6-digit number that can be made using the digits 8, 9, 4, 3, 2, 1 can be written by arranging the number in descending order:

Descending order: 9

8

4

3

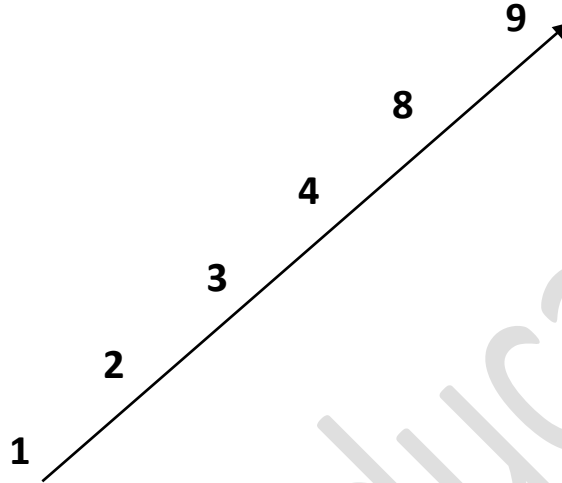
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After arranging in descending order, the greatest six-digit number will be 9,84,321.

Now, let's find out the smallest 6-digit number by using the given digits 8, 9, 4, 3, 2, 1. To find the smallest 6-digit number the number should be arranged in ascending order.

Ascending order:



After arranging in ascending order, the smallest 6-digit number will be 1,23,489.

Now, the next part of the question is to find the difference between = (Highest 6-digit number using the digit – lowest 6-digit number using the digit) = (984321 – 123489)

$$\begin{array}{r} 984321 \\ -123489 \\ \hline 860832 \end{array}$$

Answer: The difference between the greatest and the least 6-digit number is 860832.

6. The number of bulbs manufactured in a day is 1698. How many bulbs were manufactured in the month of November 2020?

Solution 6:

Numbers of bulb manufactured in a day = 1698

We have to find the number of bulbs manufactured in the month of November = Number of bulb manufactured in a day × number of days in the month of November

= 1698 × 30 (days in the month of November 2020)

$$\begin{array}{r} 1698 \\ \times 30 \\ \hline 50940 \end{array}$$

Answer: The number of bulbs manufactured in the month of November is 50,940.

7. Cost of a washing machine is ₹8000. The shop owner wants to purchase 67 washing machines and he has a sum of ₹ 6,00,000. After purchasing the required washing machines, how much money will remain with him?

Solution 7:

Cost of one washing machine = ₹ 8000

The number of machine shop owner wants to purchase = 67

The sum of money shopkeeper has for buying refrigerator = ₹ 6,00,000

From the given information, we can find the cost of 67 washing machines = (Cost of one

Washing machine × number of washing machines to buy)

$$\begin{array}{r} 8000 \\ \times 67 \\ \hline 536000 \end{array}$$

After purchasing the required number of washing machine the money remaining with him will be = (The sum of money shopkeeper has for buying washing machine) – (The cost of 67 washing machines)

$$\begin{array}{r} 6\ 0\ 0\ 0\ 0\ 0 \\ -5\ 3\ 6\ 0\ 0\ 0 \\ \hline 6\ 4\ 0\ 0\ 0\ 0 \end{array}$$

Answer: The remaining money after purchasing 67 washing machines will be ₹ 64,000.

8. A student multiplied 5971 by 87 instead of 78. By how much was his answer greater than the correct answer? (Hint: Do you need to do both the multiplications?)

Solution 8:

To find out how much greater the answer will be we do not need to multiply 5971 by 87 and 78. Instead we can do as it is mentioned in the hint.

By subtracting 87 from 78 we can easily find the error made by the student = $(87 - 78 = 9)$

The difference between the numbers is 9.

$$\begin{array}{r} 5\ 9\ 7\ 1 \\ \times 9 \\ \hline 5\ 3\ 7\ 3\ 9 \end{array}$$

Answer: The student will get the answer greater by 53,739.

9. For stitching a dress 1m 15cm cloth is needed. Out of 50 m of cloth how many dresses can be stitched and how much cloth will remain?

Solution 9:

Cloth needed for stitching a dress material = 1m 15 cm

Dresses to be stitched from a cloth of length = 50 m

Before calculating the number of dresses tailor can stitch from 50 m cloth, **we have to convert the unit of measurement in order to compare different quantities.**

Here, we will convert (**m = meter**) into (**cm= centimeter**)

$$\mathbf{1 \text{ meter} = 100 \text{ cm}}$$

$$1 \text{ meter } 15 \text{ cm} = (1 \times 100 + 15) = 115 \text{ cm}$$

$$\text{Length of cloth from which dress to be stitched} = 50 \text{ m} = (50 \times 100) = 5000 \text{ cm}$$

$$\begin{array}{r} \mathbf{43} \\ 115 \overline{) 5000} \\ \underline{-460} \\ 400 \\ \underline{-345} \\ 55 \end{array}$$

Answer: Therefore, 43 shirts can be stitched out of 5000 m cloth and 55 cm of cloth will remain.

10. Total number of chocolates in a box is 15. There are 750 boxes in total, the cabinet in which chocolates has to be stored has only 1100 slots. Find out how many more or less chocolates are in total?

Solution 10:

Number of chocolates in a box = 15

Number of chocolate boxes = 750

Number of slots in the cabinet where chocolate is stored = 1100

To find the total number of chocolates in 750 boxes = Number of chocolate boxes × number of chocolates in each box = $15 \times 750 = ?$

$$\begin{array}{r} 750 \\ \times 15 \\ \hline 11250 \end{array}$$

(Total number of chocolates in 750 boxes) - (Number of slots available to store chocolate)

$$\begin{array}{r} \downarrow \qquad \qquad \qquad \downarrow \\ 11250 \qquad \qquad - \qquad \qquad 11000 \\ \hline 250 \end{array}$$

Answer: There are 250 more chocolates in the chocolate box.

11. The distance between sector 1 and sector 3 is 2 km 652 meters. A bus travels both ways in a day. How much distance does the bus cover in six days?

Solution 11:

The distance between sector and sector 3 = 2 km 652 m

Before calculating the distance traveled by bus, **we have to convert units of measurement in order to compare different quantities.**

Here, we will convert (**m = meter**) into (**km= Kilometer**)

$$\mathbf{1\ km = 1000\ m}$$

$$2\ \text{km}\ 652\ \text{m} = 2\ \text{km} + 652/1000\ \text{km} = (2 + 0.652) = 2.652\ \text{km}$$

As we have to calculate the distance from both ways, we have to multiply the distance by 2

$$\text{Distance covered by bus from sector 1 to sector 3 both ways} = 2.652 \times 2 = 5.304\ \text{km}$$

$$\text{The distance covered by bus in 6 days} = 5.304 \times 6 = 31.824\ \text{m}$$

Answer: The total distance covered by the bus from sector 1 to sector 3 both ways in 6 days will be 31 km 824 m.

12. A tank has 6 liters and 500 ml of red paint. In how many boxes of 1300 ml capacity, can it be filled?

Solution 12:

The quantity of red paint in the tank = 6-liter 500 ml

Before calculating the number of boxes of 1300 ml required filling red paint, **we have to Convert unit of measurement in order to compare different quantities.**

Here, we will convert (**l = liter**) into (**ml= milliliter**)

$$\mathbf{1\ liter = 1000\ milliliter}$$

$$6\text{-liter } 500 \text{ ml} = (6 \times 1000) + 500 = 6500 \text{ ml}$$

The capacity of boxes to be filled = 1300 ml

Total number of boxes required

= **the quantity of red paint in the tank / the capacity of the boxes to be filled**

$$= 6500 / 1300 = 5$$

Answer: 6-liter 500 ml paint can be stored in 5 boxes of 1300 ml capacity.

- 13.** Take two numbers 4 and 5. Using these two numbers make a 4-digit number using both the digit equal number of times. Find a) greatest 4-digit number using given numbers
b) Smallest 4-digit number using given numbers c) How many different numbers can you make in all?

Solution 13:

The two numbers given in the question = 4 and 5

- a) To find the greatest number we can arrange the number in descending order.

$$5 > 4$$

Greatest 4-digit number using these two numbers is 5544

- b) To find the smallest number we can arrange the number in ascending order.

$$4 < 5$$

Smallest 4-digit number using these two numbers is 4455

- c) To find the different numbers you can make in all = difference + 1

$$\begin{array}{r} \blacksquare \\ 5544 \\ -4455 \\ \hline 1089 \end{array}$$

$$1089 + 1 = 1090$$