Whole Numbers

Exercise-2.1

1. the smallest whole number is 1 and there is no Largest whole number.

Solution-02:

(i) 3999

Successor is 1 more than the given number

the successor of 3999 = 3999+1

= 4000.

(ii) 378915

the successor of 378915 = 378915+1

= 378916.

(iii) 5001299

the successor of 5001299 = 5001299+1

= 5001300.

Solution-03:

Predecessor is less than the given number

(i) 500

Predecessor of 500 = 500-1

= 499.

(ii) the predecessor of 38794 = 38794-1

= 38793.

(iii) the predecessor of 8300000 = 8300000-1

= 8300999.

Solution 04:-

(i) Successor of 50795 is = 50795+1

= 50796

(ii) Successor of 720300 is = 720300+1

= 720301.

(iii) Successor of 8300000 is = 8300000+1

= 8300001.

Solution-05:

(i) predecessor of 5347 is = 5347-1

= 5346

(ii) Predecessor of 72399 is = 72399-1

= 72398

(iii) Predecessor of 3012999 is = 3012999-1

= 3012998

Solution-06:

(i) the next three consecutive whole numbers of 79 are 80, 81, 82.

(ii) the next three consecutive whole numbers of 598 are 599, 600, 601.

(iii) the next three consecutive whole numbers of 35669 are 35670, 35671, 35672.

Solution-07

The three consecutive whole numbers occuring just before 320001 are 320000, 321999, 321998.

Solution-08

(i) The whole numbers between 38 and 68 are

38, 39, 40, 41, ... , 67, 68.

Number of those numbers = 67 - 38

= 29.

Note that in the above list, 69 is included and 38 is not included.

(ii) The whole numbers between 99 and 300 are

100, 101, 102, 103, ... , 298, 299.

Number of those numbers = 299 - 099

= 200.

Solution-09

Whole numbers between 100 and 200 which do not change if the digits are written in the reverse order

101, 111, 1421, 131, 141, 151, 161, 171, 181, 191.

Solution-10:

Whole numbers (2 digit) between 5 and 92 are

10, 11, 12, 13, 14, ..., 90, 91

Number of those numbers = 92 - 10

= 82

Solution-11:

3 digit whole numbers between 72 and 407 are

100, 101, 102, 103, ..., 406.

Number of those numbers = 407 - 100

= 307.

Exercise- 2.2.

Solution-01.

(i) $378 + 1024 = 1024 + 378$

(ii) $337 + (528 + 1164) = (337 + 528) + 1164$

(iii) $(21 + 18) + 13 = (21 + 13) + 18$

(iv) $3056 + 0 = 0 + 3056 = 3056$.

Solution-02:

(i) $3189 + 53885$

$$\begin{array}{r} 3189 \\ 53885 \\ \hline 57074 \end{array}$$

$3189 + 53885 = 57074$.

$$\begin{array}{r} 53885 \\ 3189 \\ \hline 57074 \end{array}$$

$3189 + 53885 = 53885 + 3189$

(ii) $33789 + 50311$

$$\begin{array}{r} 33789 \\ 50311 \\ \hline 84100 \end{array}$$

$$\begin{array}{r} 50311 \\ 33789 \\ \hline 84100 \end{array}$$

$33789 + 50311 = 50311 + 33789$.

Solution -03:

(i) $311 + 528 + 289 = (311 + 528) + 289$

$= (839) + 289$

$= 1128$

(ii) $723 + 834 + 66 + 277 = (723 + 834) + (66 + 277)$

$= (1557) + (343)$

$= 1900$

(iii) $78 + 203 + 435 + 7197 + 422$

$= (78 + 203) + (435 + 422) + 7197$

$= (281) + (857) + 7197$

$= (281 + 857) + 7197$

$= 1138 + 7197$

$= 8335$

Solution -04

(i) $315 \times 57 = 57 \times 375$

(ii) $(33 \times 16) \times 25 = 33 \times (16 \times 25)$

(iii) $37 \times 24 = 37 \times 18 + 37 \times 6$

(iv) $7205 \times 1 = 7205 = 1 \times 7205$

(v) $566 \times 0 = 0$

(vi) $0 \times 579 = 0$

(vii) $473 \times 108 = 473 \times 100 + 473 \times 8$

(viii) $684 \times 97 = 684 \times 100 - 684 \times 3$

(ix) $0 \div 5 =$ not 0

(x) $(14 - 14) \div 7 = 0$

Solution-05:-

(i) $4 \times 528 \times 25 = (4 \times 25) \times 528$

$= 100 \times 528$

$= 52800$

(ii) $625 \times 239 \times 16 = (625 \times 16) \times 239$

$= 10000 \times 239$

$= 2390000.$

(iii) $125 \times 40 \times 8 \times 25 = (125 \times 40) \times (8 \times 25)$

$= 5000 \times 200$

$= 10,00000$

Solution-06:

(i) $54279 \times 92 + 54279 \times 8 = 54279(92+8)$

$= 54279 \times 100$

$= 5427900.$

(ii) $60678 \times 262 - 60678 \times 162 = 60678(262-162)$

$= 60678(100)$

$= 6067800.$

Exercise Solution-07:

(i) $739 \times 102 = 739(100+2)$

$= 739 \times 100 + 739 \times 2$

$= 73900 + 1478$

$= 75378.$

Solution 07(ii) :-

$1938 \times 99 = 1938\,(100-1)$

$= 1938 \times 100 - 1938$

$= 193800 - 1938$

$= 191862$

Solution 08:-

By Actual division,

we have

Dividend = 7750

divisor = 17

quotient = 444

Remainder = 2

$$\begin{array}{r|l} 17)7750 & 444 \\ 68 & \\ \hline 75 & \\ 68 & \\ \hline 70 & \\ 68 & \\ \hline (2) & \end{array}$$

Check :

divisor × quotient + 2

$= 17 \times 444 + 2$

$= 7748 + 2$

$= 7750$

Solution 09:-

Let the number dividend be 'D'

D = divisor × quotient + Remainder

$= 38 \times 23 + 17$

$= 874 + 17$

$= 891.$

Solution -10.

Let the number be 'Q'

$\frac{(1000 - Q) \neq 0}{35}$ should be divisible by 35

first will divided 1000 by 35

```
35) 1000 ( 28
     70
     ---
      300
      280
      ---
       20.
```

∴ 20 should be subtracted from 1000 so that the difference can be divisible by 35.

solution-11

```
53) 1000 ( 18
     53
    ----
     470
     424
    ----
      46
```

∴ number which should be Added to 1000 so that it can be exactly divisible by 53 is

$53 - 46 = 7$.

∴ Required number is '7'.

Solution-12.

Largest three digit number 999.

We divide 999 by 47 and find the remainder

```
47)999(21          47)999(2
   47                 94
  ---                ---
  429                 59
  423                 47
  ---                ---
    6                 12
```

∴ The largest three digit number which should be divisible by 47 is 987.

∴ Req. Number 999 - 12 = 987

Solution-13.

Smallest 5 digit number = 10000.

Will divide 10000 by 254

```
254)10000(3
   762
  ----
  2380
  2286
  ----
    94
```

∴ The smallest five digit number which should be divisible by 254 is 10160.

∴ Required number = 10254 - 94

= 10160.

Solution-14:

Milk supplies in the morning = 72 Litre

" " " " Evening = 28 Litre.

Total milk supplied in the day = 72+28

= 100 Litre.

Milk cost per Litre is ₹39 then

Total cost = ₹39 × 100

= ₹3,900/-.

Solution-15:

(i) True

(ii) True

(iii) False.

Solution-16:

(i) 3 5 6
* 6 *
* 9

3 5 6
* 6 7
* 9

3 5 6
2 6 7
8 9

(ii) 6 5 0 ⊛
* 0 * 5
---
4 * 5 7

6 5 $^{-1}$ 0 $^{-1}$ 2 $^{+10}$
* 0 * 5
---
4 * 5 7

6 $^{-0}$ 5 $^{-1}$ 0 $^{-1}$ 2 $^{+10}$
* 0 4 5
---
4 * 5 7

6 5 $^{-1}$ 0 $^{-1}$ 2 $^{+10}$
2 0 4 5
---
4 4 5 7

(iii) 1 7 0 0 * 4
8 * * 4 7
---
* 8 6 6 *

1 7 $^{-1}$ 0 $^{+9}$ 0 $^{+9}$ 1 $^{-1}$ 4
8 1 3 4 7
---
8 8 6 6 7

Exercise- 2.3

Solution-01:

(i) $3246 + 9999 = 3246 + 10000 - 1$

$= 13246 - 1$

$= 13245$

(ii) $7501 + 9999 = 7500 + 1 + 9999$

$= 7500 + 10000$

$= 17500.$

(iii) $5377 - 999 = 5378 - 1 - 999$

$= 5378 - 1000$

$= 4378$

(iv) $25718 - 9999 = 25719 - 1 - 9999$

$= 25719 - 10000$

$= 15719.$

(v) $123 \times 999 = 123 \times (1000 - 1)$

$= 123 \times 1000 - 123 \times 1$

$= 123000 - 123$

$= 122877.$

(vi) $203 \times 9999 = 203 \times (1000 - 1)$

$= 203 \times 1000 - 203 \times 1$

$= 203000 - 203$

$= 203000$

$- \quad 203.$

202797

Solution: 02:

(i) 9 th square number is = 9×9

= 81

(ii) 5 th. triangular number = 15 [1+2+3+4+5]

6 th triangular number = 15+6 [1+2+3+4+5+6]

= 21

7 th triangular numbe = 21+7

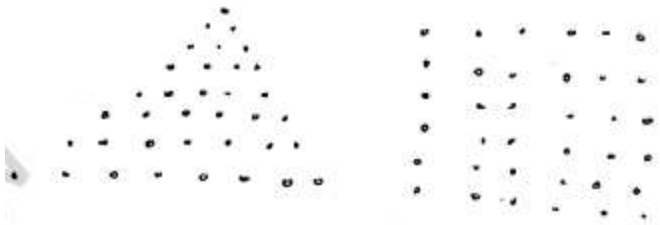
= 28.

Solution- 03

(i) yes; 9 is a square as well as rectangular number

(ii) yes, 8 th triangular numbers is = 28+8

= 36.



36

8 th

4. $1 \times 9 + 1 = 10$

$12 \times 9 + 2 = 100$

$123 \times 9 + 3 = 1110$

$1234 \times 9 + 4 = 11110$

$12345 \times 9 + 5 = 111110$

Solution 05:

~~98765x~~

$9 \times 9 + 7 = 88$

$99 \times 9 + 6 = 888$

$999 \times 9 + 5 = 8888$

$9999 \times 9 + 4 = 88888$

$99999 \times 9 + 3 = 888888$