



CLASS NOTES-ANSWERS

EXERCISE 2.1

1. Write the next three natural numbers after 10999.

Answer: 11000, 11001 and 11002 are the next three natural numbers after 10999.

2. Write the three whole numbers occurring just before 10001.

Answer: 10000, 9999 and 9998.

3. Which is the smallest whole number?

Answer: 0 (zero)

4. How many whole numbers are there between 32 and 53?

Answer: To calculate numbers between 53 and 32 we will use the formula $(N_2 - N_1) - 1$.

Applying this formula, we get $(53 - 32) - 1 = 20$

Thus, between 32 and 53 there are 20 whole numbers.

5. Write the successor of:

(a) 2440701 (b) 100199 (c) 1099999 (d) 2345670

Answer: The successor of the number is always 1 more than the given number that is $n + 1$. So, the successors of given are:

(a) $2440701 + 1 = 2440702$

(b) $100199 + 1 = 100200$

(c) $1099999 + 1 = 1100000$



(d) $2345670 + 1 = 2345671$

6. Write the predecessor of:

- (a) 94 (b) 10000 (c) 208090 (d) 7654321

Answer: The predecessors of number is always 1 less than the given number that is $n - 1$. So, the predecessors of given are:

(a) $94 - 1 = 93$

(b) $10000 - 1 = 9999$

(c) $208090 - 1 = 208089$

(d) $7654321 - 1 = 7654320$

7. In each of the following pairs of numbers, state which whole number is on the left of the other number on the number line. Also write them with the appropriate sign ($>$, $<$) between them.

- (a) 530, 503 (b) 370, 307 (c) 98765, 56789 (d) 9830415, 10023001

Answer:

(a) Since, $530 > 503$

The number 503 is on the left side of 530 on the number line

(b) Since, $370 > 307$

The number 307 is on the left side of 370 on the number line

(c) Since, $98765 > 56789$

The number 56789 is on the left side of 98765 on the number line



(d) Since, $9830415 < 10023001$

The number 9830415 is on the left side of 10023001 on the number line

8. Which of the following statements are true (T) and which are false (F)?

- (a) Zero is the smallest natural number.
- (b) 400 is the predecessor of 399.
- (c) Zero is the smallest whole number.
- (d) 600 is the successor of 599.
- (e) All natural numbers are whole numbers.
- (f) All whole numbers are natural numbers.
- (g) The predecessor of a two digit number is never a single digit number.
- (h) 1 is the smallest whole number.
- (i) The natural number 1 has no predecessor.
- (j) The whole number 1 has no predecessor.
- (k) The whole number 13 lies between 11 and 12.
- (l) The whole number 0 has no predecessor.
- (m) The successor of a two digit number is always a two digit number.

Answer:

- (a) False [$N = \{1, 2, 3, \dots\}$, 0 is not a natural number]
- (b) False [The predecessor of 399 is 398. ($399 - 1 = 398$)]
- (c) True [$W = \{0, 1, 2, 3, \dots\}$, the whole numbers begin with 0.]
- (d) True [$599 + 1 = 600$]



(e) True $N = \{1, 2, 3, \dots\}$ $W = \{0, 1, 2, 3, \dots\}$

As we see that every element of natural numbers set (N) belongs to the set of whole numbers (W) thus, N belongs to W.

(f) False $N = \{1, 2, 3, \dots\}$ and $W = \{0, 1, 2, 3, \dots\}$

0 is a whole number but is not a natural number.

(g) False [The predecessor of 10 is 9 which is a single-digit number]

(h) False [0 is the smallest whole number.]

(i) True [The predecessor of 1 is 0 but is not a natural number]

(j) False [0 is the predecessor of 1 and is a whole number]

(k) False [13 lies between 12 and 14. No whole number lies between 11 and 12 as they are consecutive numbers]

(l) True [The predecessor of 0 is -1 and is not a whole number. -1 is an integer.]

(m) False [The successor of 99 is 100 which is a 3-digit number]