

## EXERCISE 2.1

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**1. Write the next three natural numbers after 10999.****Solutions:**

The next three whole numbers after 10999 are 11000, 11001 and 11002

**2. Write the three whole numbers occurring just before 10001.****Solutions:**

The three whole numbers occurring just before 10001 are 10000, 9999 and 9998

**3. Which is the smallest whole number?****Solutions:**

The smallest whole number is 0

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

The whole numbers between 32 and 53 are

(33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52)

Hence, there are 20 whole numbers between 32 and 53

**5. Write the successor of:**

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

**Solutions:**

The successors 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

**Solutions:**

The predecessors 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

**Solutions:**(a) Since,  $530 > 503$ 

Hence, 503 is on the left side of 530 on the number line

(b) Since,  $370 > 307$

Hence, 307 is on the left side of 370 on the number line

(c) Since,  $98765 > 56789$

Hence, 56789 is on the left side of 98765 on the number line

(d) Since,  $9830415 < 10023001$

Hence, 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.**

**Solution:**

False

0 is not a natural number

**(b) 400 is the predecessor of 399.**

**Solution:**

False

The predecessor of 399 is 398

Since,  $(399 - 1 = 398)$

**(c) Zero is the smallest whole number.**

**Solution:**

True

Zero is the smallest whole number

**(d) 600 is the successor of 599.**

**Solution:**

True

Since  $(599 + 1 = 600)$

**(e) All natural numbers are whole numbers.**

**Solution:**

True

All natural numbers are whole numbers

**(f) All whole numbers are natural numbers.**

**Solution:**

False

0 is a whole number but is not a natural number

**(g) The predecessor of a two digit number is never a single digit number.**

**Solution:**

False

Example the predecessor of 10 is 9

**(h) 1 is the smallest whole number.**

**Solution:**

False

0 is the smallest whole number

**(i) The natural number 1 has no predecessor.**

True

The predecessor of 1 is 0 but is not a natural number

**(j) The whole number 1 has no predecessor.**

**Solution:**

False

0 is the predecessor of 1 and is a whole number

**(k) The whole number 13 lies between 11 and 12.**

**Solution:**

False

13 does not lie between 11 and 12

**(l) The whole number 0 has no predecessor.**

**Solution:**

True

The predecessor of 0 is -1 and is not a whole number

**(m) The successor of a two digit number is always a two digit number.**

**Solution:**

False

As the successor of 99 is 100