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CLASS 6TH
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MATHS
CHAPTER- 2nd
WHOLE NUMBERS

EXERCISE- 2.1

NCERT SOLUTION

Question 1. Write the next three natural numbers after 10999.

Ans:

The next three natural numbers after 10999 are:

$$\begin{array}{r} 10999 \\ + 1 \\ \hline 11000 \end{array}$$

$$\begin{array}{r} 11000 \\ + 1 \\ \hline 11001 \end{array}$$

$$\begin{array}{r} 11001 \\ + 1 \\ \hline 11002 \end{array}$$

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

Ans:

$$\begin{array}{r} 10001 \\ - 1 \\ \hline 10000 \end{array}$$

$$\begin{array}{r} 10000 \\ - 1 \\ \hline 9999 \end{array}$$

$$\begin{array}{r} 9999 \\ - 1 \\ \hline 9998 \end{array}$$

Hence, three whole numbers just before 10001 are 10000, 9999 and 9998.

Question 3. Which is the smallest whole number?

Ans:

0 is the smallest whole number.

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

Ans:

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, and 52.

So, there are 20 whole number between 32 and 53.

Question 5. Write the successor of:

(a) 2440701

Ans:

Successor of 244070 is

$$\begin{array}{r} 244070 \\ + 1 \\ \hline = 244071 \end{array}$$

(b) 100199

Ans:

Successor of 100199 is

$$\begin{array}{r} 100199 \\ + 1 \\ \hline = 100200 \end{array}$$

(c) 1099999

Ans:

Successor of 1099999 is

$$\begin{array}{r} 1099999 \\ + 1 \\ \hline = 1100000 \end{array}$$

(d) 2345670

Ans:

Successor of 2345670 is

$$\begin{array}{r} 2345670 \\ + 1 \\ \hline = 2345671 \end{array}$$

Question 6. Write the predecessor of:

(a) 94

Ans:

Predecessor of 94 is

$$\begin{array}{r} 94 \\ - 1 \\ \hline = 93 \end{array}$$

(b) 10000

Ans:

Predecessor of 10000 is

$$\begin{array}{r} 10000 \\ - 1 \\ \hline = 9999 \end{array}$$

(c) 208090

Ans:

Predecessor of 208090 is

$$\begin{array}{r} 208090 \\ - 1 \\ \hline = 208089 \end{array}$$

(d) 7654321

Ans:

Predecessor of 7654321 is

$$\begin{array}{r} 7654321 \\ - 1 \\ \hline = 7654320 \end{array}$$

Question 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

Ans:

$530 > 503$

Hence, 503 will appear on the left side of 530 on number line.

(b) 370, 307

Ans:

$370 > 307$

Hence, 307 will appear on the left side of 370 on number line.

(c) 98765, 56789

Ans:

$98765 > 56789$

Hence, 56789 will appear on left side of 98765 on number line.

(d) 9830415, 10023001

Ans:

$10023001 > 9830415$

Hence, 9830415 will appear on the left side of 10023001 on the number line.

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

(a) Zero is the smallest natural number.

Ans:

False

(b) 400 is the predecessor of 399.

Ans:

False

(c) Zero is the smallest whole number.

Ans:

True

(d) 600 is the successor of 599.

Ans:

True

(e) All natural numbers are whole numbers.

Ans:

True

(f) All whole numbers are natural numbers.

Ans:

False

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

Ans:

False

(h) 1 is the smallest whole number.

Ans:

False

(i) The natural number 1 has no predecessor.

Ans:

True

(j) The whole number 1 has no predecessor.

Ans:

False

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

Ans:

False

(l) The whole number 0 has no predecessor.

Ans:

True

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

Ans:

False

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EXERCISE- 2.2

NCERT SOLUTION

Question 1. Find the sum by suitable arrangement:

(a) $837 + 208 + 363$

Ans:

$837 + 208 + 363$

$$\begin{aligned} &= (837 + 363) + 208 \\ &= 1200 + 208 \\ &= 1408 \end{aligned}$$

(b) $1962 + 453 + 1538 + 647$

Ans:

$$\begin{aligned} &1962 + 453 + 1538 + 647 \\ &= (1962 + 1538) + (453 + 647) \\ &= 3500 + 1100 \\ &= 4600 \end{aligned}$$

Question 2. Find the product by suitable arrangement:

(a) $2 \times 1768 \times 50$

Ans:

$$\begin{aligned} &2 \times 1768 \times 50 \\ &= (2 \times 50) \times 1768 \\ &= 176800 \end{aligned}$$

(b) $4 \times 166 \times 25$

Ans:

$$\begin{aligned} &4 \times 166 \times 25 \\ &= 166 \times (25 \times 4) \\ &= 166 \times 100 \\ &= 16600 \end{aligned}$$

(c) $8 \times 291 \times 125$

Ans:

$$8 \times 291 \times 125$$

$$= (8 \times 125) \times 291$$

$$= 1000 \times 291$$

$$= 291000$$

(d) $625 \times 279 \times 16$

Ans:

$$625 \times 279 \times 16$$

$$= (625 \times 16) \times 279$$

$$= 10000 \times 279$$

$$= 2790000$$

(e) $285 \times 5 \times 60$

Ans:

$$285 \times 5 \times 60$$

$$= 285 \times (5 \times 60)$$

$$= 285 \times 300$$

$$= 85500$$

(f) $125 \times 40 \times 8 \times 25$

Ans:

$$\begin{aligned} &125 \times 40 \times 8 \times 25 \\ &= (125 \times 8) \times (40 \times 25) \\ &= 1000 \times 1000 = 1000000 \end{aligned}$$

Question 3. Find the value of the following:

(a) $297 \times 17 + 297 \times 3$

Ans:

$$\begin{aligned} &297 \times 17 + 297 \times 3 \\ &= 297 \times (17 + 3) \\ &= 297 \times 20 \\ &= 5940 \end{aligned}$$

(b) $54279 \times 92 + 8 \times 54279$

Ans:

$$\begin{aligned} &54279 \times 92 + 8 \times 54279 \\ &= 54279 \times (92 + 8) \\ &= 54279 \times 100 \\ &= 5427900 \end{aligned}$$

(c) $81265 \times 169 - 81265 \times 69$

Ans:

$$\begin{aligned} &81265 \times 169 - 81265 \times 69 \\ &= 81265 \times (169 - 69) \\ &= 81265 \times 100 \\ &= 8126500 \end{aligned}$$

(d) $3845 \times 5 \times 782 + 769 \times 25 \times 218$

Ans:

$$\begin{aligned} & 3845 \times 5 \times 782 + 769 \times 25 \times 218 \\ &= 3845 \times 5 \times 782 + 769 \times (5 \times 5) \times 218 \\ &= 3845 \times 5 \times 782 + (769 \times 5) \times 5 \times 218 \\ &= 3845 \times 5 \times 782 + 3845 \times 5 \times 218 \\ &= (3845 \times 5) \times 782 + (3845 \times 5) \times 218 \\ &= 3845 \times 5 \times (782 + 218) \\ &= 3845 \times 5 \times 1000 \\ &= 19225 \times 1000 \\ &= 19225000 \end{aligned}$$

Question 4. Find the product using suitable properties.

(a) 738×103

Ans:

$$738 \times (100 + 3)$$

$$738 \times 100 + 738 \times 3$$

Using distributive property

$$= 73800 + 2214$$

$$= 76014$$

(b) 854×102

Ans:

$$854 \times 102$$

$$\begin{aligned}&= 854 \times (100 + 2) \\&\text{Using distributive property} \\&= 854 \times 100 + 854 \times 2 \\&= 85400 + 1708 \\&= 87108\end{aligned}$$

(c) 258 x 1008

Ans:

$$\begin{aligned}&258 \times 1008 \\&= 258 \times (1000 + 8) \\&\text{Using distributive property} \\&= 258 \times 1000 + 258 \times 8 \\&= 258000 + 2064 \\&= 260064\end{aligned}$$

(d) 1005 x 168

Ans:

$$\begin{aligned}&1005 \times 168 \\&= (1000 + 5) \times 168 \\&= 1000 \times 168 + 5 \times 168 \\&\text{Using distributive property} \\&= 168000 + 840 \\&= 168840\end{aligned}$$

Question 5. A taxi driver filled his car petrol tank with 40 litres of petrol on Monday. The next day, he filled the tank with 50 litre of petrol. If the petrol cost Rs. 44 per litre, how much did he spend in all on petrol?

Ans:

Petrol filled on Monday = 40 litre

Petrol filled on Tuesday = 50 litre

Cost of petrol = Rs. 44 per litre

∴ Total money spent = Rs. $(40 \times 44 + 50 \times 44)$

= Rs. $(40 + 50) \times 44$

= 90×44

= Rs. 3960

Question 6. A vendor supplies 32 litres of milk to a hotel in the morning and 68 litres of milk in the evening. If the milk costs Rs. 15 per litre, how much money is due to the vendor per day?

Ans:

Milk supplied in the morning = 32 litres

Milk supplied in the evening = 68 litres

Cost of milk = Rs. 15 per litre

= $32 \times 15 + 68 \times 15$

= $15 \times (32 + 68)$

= 15×100

= Rs. 1500

Question 7. Match the following:

(i) $425 \times 136 = 425 \times (6 + 30 + 100)$	Commutativity under multiplication
(ii) $2 \times 49 \times 50 = 2 \times 50 \times 49$	Commutativity under addition
(iii) $80 + 2005 + 20 = 80 + 20 + 2005$	Distributivity of multiplication over addition

EXERCISE- 2.3

NCERT SOLUTION

Question 1. Which of the following will not represent zero:

(a) $1 + 0$

Ans:

$$1 + 0 = 1$$

$1 \neq 0$, hence does not represent as zero.

(b) 0×0

Ans:

$$0 \times 0 = 0$$

Hence, it represents as zero.

(c) $0 / 2$

Ans:

$$0 / 2 = 0,$$

Hence it represents as zero.

(d) $(10-10) / 2$

Ans:

$$(10-10) / 2 = 02 = 0$$

Hence it represents as zero.

Question 2. If the product of two whole numbers is zero, can we say that one or both of them will be zero? Justify through examples.

Ans:

Yes, Examples:

The product of two whole numbers is zero if one of them will be zero

$$1 \times 0 = 0$$

$$0 \times 10 = 0$$

The product of two whole numbers is zero, if both of them will be zero

$$0 \times 0 = 0$$

Question 3. If the product of two whole numbers is 1, can we say that one or both of them will be 1? Justify through examples.

Ans:

This is true only when each of the number are 1.

$$1 \times 1 = 1$$

Question 4. Find using distributive property:

(a) 728×101

Ans:

$$728 \times 101$$

$$= 728 \times (100 + 1)$$

$$= (728 \times 100) + (728 \times 1)$$

$$= 72800 + 728$$

$$= 73528$$

(b) 5437×1001

Ans:

$$5437 \times 1001$$

$$= 5437 \times (1000 + 1)$$

$$= (5437 \times 1000) + (5437 \times 1)$$

$$= 5437000 + 5437$$

$$= 5442437$$

(c) 824×25

Ans:

$$824 \times 25$$

$$= 824 \times (20 + 5)$$

$$= (824 \times 20) + (824 \times 5)$$

$$= 16480 + 4120$$

$$= 20600$$

(d) 4275 x 125

Ans:

$$4275 \times 125$$

$$= 4275 \times (100 + 20 + 5)$$

$$= (4275 \times 100) + (4275 \times 20) + (4275 \times 5)$$

$$= 427500 + 85500 + 21375$$

$$= 534375$$

(e) 504 x 35

Ans:

$$504 \times 35$$

$$= (500 + 4) \times 35$$

$$= (500 \times 35) + (4 \times 35)$$

$$= 17500 + 140$$

$$= 17640$$

Question 5. Study the pattern:

$$1 \times 8 + 1 = 9$$

$$12 \times 8 + 2 = 98$$

$$123 \times 8 + 3 = 987$$

$$1234 \times 8 + 4 = 9876$$

$$12345 \times 8 + 5 = 98765$$

Write the next two steps.

Ans:

$$\text{Step I: } 123456 \times 8 + 6 = 987654$$

$$\text{Step II: } 1234567 \times 8 + 7 = 9876543$$

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