Class –VI Mathematics (Ex. 2.1)
Questions

1. Write the next three natural numbers after 10999.
2. Write the three whole numbers occurring just before 10001.
3. Which is the smallest whole number?
4. How many whole numbers are there between 32 and 53?
5. Write the successor of:
   (a) 2440701 (b) 100199 (c) 1099999 (d) 2345670
6. Write the predecessor of:
   (a) 94 (b) 10000 (c) 208090 (d) 7654321
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
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.

Class –VI Mathematics (Ex. 2.1)

Answers

1. 10,999 + 1 = 11,000
   11,000 + 1 = 11,001
   11,001 + 1 = 11,002

2. 10,001 – 1 = 10,000
   10,000 – 1 = 9,999
   9,999 – 1 = 9,998

3. '0' (zero) is the smallest whole number.

4. 53 – 32 – 1 = 20
   There are 20 whole numbers between 32 and 53.

5. (a) Successor of 2440701 is 2440701 + 1 = 2440702
   (b) Successor of 100199 is 100199 + 1 = 100200
   (c) Successor of 1099999 is 1099999 + 1 = 1100000
   (d) Successor of 2345670 is 2345670 + 1 = 2345671

6. (a) The predecessor of 94 is 94 – 1 = 93
   (b) The predecessor of 10000 is 10000 – 1 = 9999
   (c) The predecessor of 208090 is 208090 – 1 = 208089
   (d) The predecessor of 7654321 is 7654321 – 1 = 7654320

7. (a) 530 > 503; So 503 appear on left side of 530 on number line.
   (b) 370 > 307; So 307 appear on left side of 370 on number line.
   (c) 98765 > 56789; So 56789 appear on left side of 98765 on number line.
   (d) 9830415 < 10023001; So 9830415 appear on left side of 10023001 on number line.

8. (a) False (b) False (c) True (d) True
   (e) True (f) False (g) False (h) False
   (i) True (j) False (k) False (l) True
   (m) False

Class –VI Mathematics (Ex. 2.2)
Questions

1. Find the sum by suitable rearrangement:
   (a) 837 + 208 + 363 (b) 1962 + 453 + 1538 + 647
2. Find the product by suitable arrangement:
   (a) 2 x 1768 x 50 (b) 4 x 166 x 25
   (c) 8 x 291 x 125 (d) 625 x 279 x 16
   (e) 285 x 5 x 60 (f) 125 x 40 x 8 x 25
3. Find the value of the following:
   (a) 297 x 17 + 297 x 3
   (b) 54279 x 92 + 8 x 54279
   (c) 81265 x 169 – 81265 x 69
   (d) 3845 x 5 x 782 + 769 x 25 x 218
4. Find the product using suitable properties:
   (a) 738 x 103 (b) 854 x 102
   (c) 258 x 1008 (d) 1005 x 168
5. A taxi-driver, filled his car petrol tank with 40 liters of petrol on Monday. The next day, he filled the tank with 50 liters of petrol. If the petrol costs ₹ 44 per liter, how much did he spend in all on petrol?
6. A vendor supplies 32 liters of milk to a hotel in a morning and 68 liters of milk in the evening. If the milk costs ₹ 15 per liter, how much money is due to the vendor per day?
7. Match the following:

(i)	425 x 136 = 425 x (6 + 30 + 100)	(a) Commutativity under multiplication
(ii)	2 x 48 x 50 = 2 x 50 x 49	(b) Commutativity under addition
(iii)	80 + 2005 + 20 = 80 + 20 + 2005	(c) Distributivity multiplication under addition

Class –VI Mathematics (Ex. 2.2)

Answers

1. (a) 837 + 208 + 363
= (837 + 363) + 208
= 1200 + 208
= 1408

(b) 1962 + 453 + 1538 + 647
= (1962 + 1538) + (453 + 647)
= 3500 + 1100
= 4600

2. (a) 2 x 1768 x 50
= (2 x 50) x 1768
= 100 x 1768
= 176800

(b) 4 x 166 x 25
= (4 x 25) x 166
= 100 x 166
= 16600

(c) 8 x 291 x 125
= (8 x 125) x 291
= 1000 x 291
= 291000

(b) 625 x 279 x 16
= (625 x 16) x 279
= 10000 x 279
= 2790000

(e) 285 x 5 x 60
= 284 x (5 x 60)
= 284 x 300
= 85500

(f) 125 x 40 x 8 x 25
= (125 x 8) x (40 x 25)
= 1000 x 1000
= 1000000

3. (a) 297 x 17 + 297 x 3
= 297 x (17 + 3)
= 297 x 20
= 5940

(b) 54279 x 92 + 8 x 542379
= 54279 x (92 + 8)
= 54279 x 100
= 5427900

(c) 81265 x 169 – 81265 x 69
= 81265 x (169 – 69)
= 81265 x 100
= 8126500

(d) 3845 x 5 x 782 + 769 x 25 x 218
= 3845 x 5 x 782 + 769 x 5 x 5 x 218)
= 3845 x 5 x 782 + 3845 x 5 x 218
= 3845 x 5 x (782 + 218)
= 3845 x 5 x 1000
= 19225000

4. (a) 738 x 103
= 738 x (100 + 3)
= 738 x 100 + 738 x 3
= 73800 + 2214
= 76014

(b) 854 x 102
= 854 x (100 + 2)
= 854 x 100 + 854 x 2
= 85400 + 1708
= 87108

(c) 258 x 1008
= 258 x (1000 + 8)
= 258 x 1000 + 258 x 8

(d) 1005 x 168
= (1000 + 5) x 168
= 1000 x 168 + 5 x 168

= 258000 + 2064 = 168000 + 840

= 260064 = 168840

5. Petrol filled on Monday = 40 liters

Petrol filled on next day = 50 liters

Total petrol filled = 90 liters

Now, Cost of 1 liter petrol = ₹ 44

Cost of 90 liters petrol = 44 x 90

= 44 x (100 – 10)

= 44 x 100 – 44 x 10

= 4400 – 440

= ₹ 3960

Therefore, he spent ₹ 3960 on petrol.

6. Supply of milk in morning = 32 liters

Supply of milk in evening = 68 liters

Total supply = 32 + 68 = 100 liters

Now Cost of 1 liter milk = ₹ 15

Cost of 100 liters milk = 15 x 100 = ₹ 1500

Therefore, ₹ 1500 is due to the vendor per day.

7. (i) 425 x 136 = 425 x (6 + 30 + 100) (c) Distributivity of multiplication over addition

(ii) 2 x 49 x 50 = 2 x 50 x 49 (a) Commutivity under multiplication

(iii) 80 + 2005 + 20 = 80 + 20 + 2005 (b) Commutivity under addition

Class –VI Mathematics (Ex. 2.3)
Questions

1. Which of the following will not represent zero:
   (a) 1 + 0 (b) 0 x 0
   (c) $\frac{0}{2}$ (d) $\frac{10-10}{2}$
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.
3. If the product of two whole number is 1, can we say that one or both of them will be 1? Justify through examples.
4. Find using distributive property:
   (a) 728 x 101 (b) 5437 x 1001
   (c) 824 x 25 (d) 4275 x 125
   (e) 504 x 35
5. Study the pattern:
   1 x 8 + 1 = 9; 12 x 8 + 2 = 98; 123 x 8 + 3 = 987
   1234 x 8 + 4 = 9876; 12345 x 8 + 5 = 98765
   Write the next two steps. Can you say how the pattern works?

Class –VI Mathematics (Ex. 2.3)

Answers

1. (a) [1 + 0 is equal to 1]
2. Yes, if we multiply any number with zero the resultant product will be zero.
   Example: 2 x 0 = 0, 5 x 0 = 0, 9 x 0 = 0
   If both numbers are zero, then the result also be zero.
   0 x 0 = 0

3. If only one number be 1 then the product cannot be 1.
   Examples: 5 x 1 = 5, 4 x 1 = 4, 8 x 1 = 8
   If both number are 1, then the product is 1
   1 x 1 = 1

4. (a) 728 x 101
   = 728 x (100 + 1)
   = 728 x 100 + 728 x 1
   = 72800 + 728
   = 73528

   (b) 5437 x 1001
   = 5437 x (1000 + 1)
   = 5437 x 1000 + 5437 x 1
   = 5437000 + 5437
   = 5442437

   (c) 824 x 25
   = 824 x (20 + 5)
   = 824 x 20 + 824 x 5
   = 16480 + 4120
   = 20600

   (d) 4275 x 125
   = 4275 x (100 + 20 + 5)
   = 4275 x 100 + 4275 x 20 + 4275 x 5
   = 427500 + 85500 + 21375
   = 534375

   (e) 504 x 35
   = (500 + 4) x 35
   = 500 x 35 + 4 x 35
   = 17500 + 140
   = 17640

5. 123456 x 8 + 6 = 987654
   1234567 x 8 + 7 = 9876543
   Pattern works like this:
   1 x 8 + 1 = 9
   12 x 8 + 2 = 98
   123 x 8 + 3 = 987
   1234 x 8 + 4 = 9876
   12345 x 8 + 5 = 98765
   123456 x 8 + 6 = 987654
   1234567 x 8 + 7 = 9875643