Ch – 2 Whole Numbers

Exercise 2.1

1. Write the next 5 whole numbers after 1111.
2. Write the successor and predecessor of each of the following:
   a. 111 b. 235324
   c. 1 d. 100000
3. How many whole numbers are there between 22 and 40?
4. Find out the value of the following using a number line.
   a. $2 + 4 + 4$ b. $6 - 6 + 3$ c. 2×9
   d. $27 \div 9$ e. $39 \div 3$

Exercise 2.1(Solutions)

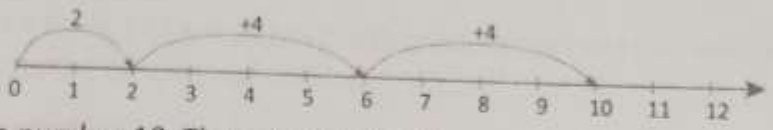
1. 1112, 1113, 1114, 1115, 1116

2.

		Successor	Predecessor
a.	111	112	110
b.	235324	235325	235323
c.	1	2	0
d.	100000	100001	99999

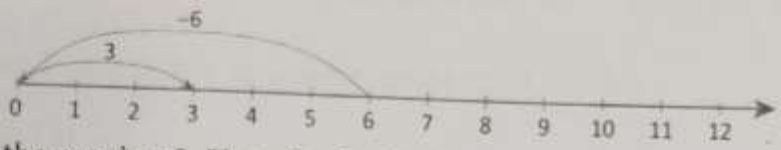
3. There are 17 whole numbers between 22 and 40.

4. a. $2 + 4 + 4$



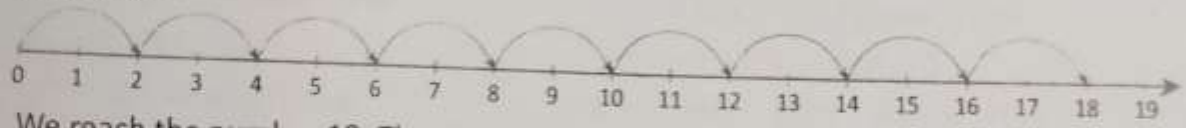
We reach the number 10. Thus, $2 + 4 + 4 = 10$.

b. $6 - 6 + 3$



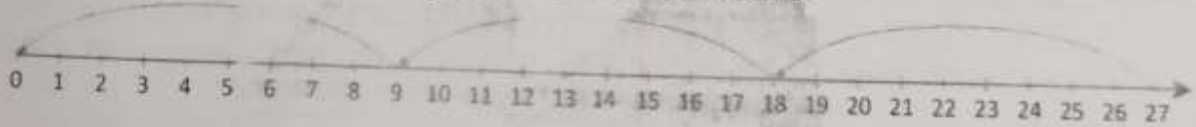
We reach the number 3. Thus, $6 - 6 + 3 = 3$.

c. 2×9: To multiply 2 and 9 on number line, we start from 0 and move 2 units forward nine times.



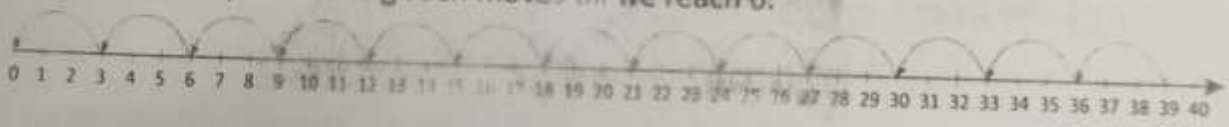
We reach the number 18. Thus, $2 \times 9 = 18$.

d. $27 \div 9$: To divide 27 by 9 on a number line, we start from 27 and move 9 units backward. We keep on making such moves till we reach 0.



We have made 3 moves of 9 units each. Thus, $27 \div 9 = 3$.

e. $39 \div 3$: To divide 39 by 3 on a number line we start from 39 and move 3 units backward. We keep on making such moves till we reach 0.



We have made 13 moves of 3 units each. Thus, $39 \div 3 = 13$.

Exercise 2.2

T.B

1. Which of the following mathematical statements are true?
   a. $208 + 1076 = 1076 + 208$
   b. $304 + 513 = 403 + 315$
   c. $40 - 72 = 72 - 40$
   d. $0 + 1001 = 1001 + 0$
   e. $(10 - 6) - 4 = 10 - (6 - 4)$
   f. $15 - 0 = 0 - 15$
   g. $18 + (4 + 7) = (18 + 4) + 7$
   h. $(9 + 19) - 10 = 9 + (19 - 10)$
2. Fill in the blanks.
   a. $77 +$ _____ $= 103 + 77$
   b. $56 + (937 + 44) = 937 +$ (_____)
   c. $88 + 0 =$ _____
   d. $872 +$ _____ $= 872$
   e. $77 + 998 = 998 +$ _____
   f. $183 \times$ _____ $= 183$
   g. $75 \times 42 = 42 \times$ _____
   h. $394 \times 65 \times 72 = 394 \times 72 \times$ _____
   i. $2 \times 179 \times 50 = 179 \times$ _____
   j. _____ $+ 972 = 1$
3. Write the properties used in the following:
   a. $175 + 32 = 32 + 175$
   b. $88 + (979 + 12) = (88 + 979) + 12$
   c. $152 + 0 = 0 + 152 = 152$
   d. $189 + (53 + 11) = 189 + (11 + 53)$
      $= (189 + 11) + 53$
4. Aneesh and Ahmed started reading a storybook. On the first day, Aneesh read 127 pages and on the second day, he read 79 pages. Ahmed read 79 pages on the first day and 127 pages on the second day. Who read more number of pages?
5. A school canteen charges ₹25 for a pack of lunch. An average of 215 lunch packs are sold per day. Find the amount collected by selling as many lunch packs in 4 days.
6. Sheila manufactures ready-made garments. She requires ribbons to attach on the garments. One roll of ribbon is 20 m long. Sheila bought 8 boxes, each containing 5 rolls of ribbon to attach on the garments. Find the total length of ribbon she bought.
7. There are 1759 sacks of rice, 982 sacks of wheat and 18 sacks of sugar in the godown of a shopkeeper. Find the total number of sacks in the godown.

HOTS

In the morning, Ram and Rahim go for a walk in a park. Ram covers 50 rounds of 100 m each and Rahim covers 100 rounds of 50 m each.
(i) Who covers more distance?
(ii) Write five sentences on the significance of morning walk.

Exercise 2.2(Solutions)

1. a. $208 + 1076 = 1076 + 208$
   $1284 = 1284$ **Answer:** True

   b. $304 + 513 = 403 + 315$
   $817 \neq 718$ **Answer:** False

   c. $40 - 72 = 72 - 40$
   $-32 \neq 32$ **Answer:** False

   d. $0 + 1001 = 1001 + 0$
   $1001 = 1001$ **Answer:** True

   e. $(10 - 6) - 4 = 10 - (6 - 4)$
   $0 \neq 8$ **Answer:** False

   f. $15 - 0 = 0 - 15$
   $15 \neq -15$ **Answer:** False

   g. $18 + (4 + 7) = (18 + 4) + 7$
   $29 = 29$ **Answer:** True

   h. $(9 + 19) - 10 = 9 + (19 - 10)$
   $18 = 18$ **Answer:** True

2. a. $77 + \underline{103} = 103 + 77$
   b. $56 + (937 + 44) = 937 + \underline{(56 + 44)}$
   c. $88 + 0 = \underline{88}$
   d. $872 + \underline{0} = 872$
   e. $77 + 998 = 998 + \underline{77}$
   f. $183 \times \underline{1} = 183$
   g. $75 \times 42 = 42 \times \underline{75}$
   h. $394 \times 65 \times 72 = 394 \times 72 \times \underline{65}$
   i. $2 \times 179 \times 50 = 179 \times \underline{50 \times 2}$
   j. $\underline{972} + 972 = 1$

3. a. Commutative property is used
   b. Associative property is used
   c. Additive Identity is used
   d. Associative property is used

4. Total number of pages Aneesh read = 127 + 79 = 206
   Total number of pages Ahmed read = 79 + 127 = 206
   Both read equal number of pages.

5. Cost of a pack of lunch = ₹ 25; Number of lunch packs sold per day = 215
   Amount collected in a day = ₹ 25 × 215 = ₹ 5375
   ∴ Amount collected in 4 days = ₹ 5375 × 4 = ₹ 21,500

6. Length of a ribbon = 20 m; Number of boxes = 8
   Number of rolls in a box = 5
   Total length of ribbon = 20 m × 5 × 8 = 100 m × 8 = 800 m

7. Number of rice sacks = 1759; Number of wheat sacks = 982
   Number of sugar sacks = 18
   Total number of sacks in godown = 1759 + 982 + 18 = 2759

Exercise 2.3

1. Which of the following mathematical statements are true?
   a. $275 \times 90 + 275 \times 10 = 275 \times 100$
   b. $1964 \times 98 + 1964 \times 2 = 1964 \times 100 + 2$
   c. $18 \times (17 - 7) = 18 \times 10$
   d. $38 \times 75 + 38 \times 25 = 76 \times (75 + 25)$
   e. $972 \times 90 + 10 \times 972 = 972 \times 100$
   f. $17 \times 98 + 1 \times 17 = 1700$
2. Evaluate the following using the distributive property of whole numbers.
   a. 17×102 b. 248×101
   c. 12×95 d. 16×94
3. Solve the following using the distributive property.
   a. $88 \times 15 + 12 \times 15$
   b. $738 \times 98 + 2 \times 738$
   c. $415 \times 973 + 415 \times 27$
   d. $477 \times 1035 - 477 \times 35$
   e. $123 \times 197 - 95 \times 123$
   f. $384 \times 195 - 384 \times 190$
4. Jagriti arranged 2 designer suits and 6 silk suits in each rack in her new boutique. If there are 10 such racks in her boutique, find the total number of suits in the racks.
5. Out of 85 schools in a city, 52 boys and 48 girls of each school are selected to participate in a rally. How many children participated in the rally in all?
6. Some oranges were stacked into 48 baskets, with each basket containing 42 oranges. From each basket, 2 oranges were taken away. Find the total number of oranges left in the baskets.
7. There are 12 bowls in a box. 4 of them are red in colour and the remaining are blue in colour. Find the number of blue bowls in 75 such boxes.

VE There are 25 students each in classes 6A, 6B and 6C. They decide to donate newspapers, storybooks and magazines to an orphanage. Each student of 6A spends ₹30 on newspapers every month, while in 6B each student spends ₹50 on storybooks every month, whereas each student in 6C spends ₹40 every month on magazines. How much do all the students spend on these items through the entire year? What do you think about the students' initiative?

Exercise 2.3 (Solutions)

1. a. $275 \times 90 + 275 \times 10 = 275 \times 100 \Rightarrow (24750) + (2750) = 27500$
   $27500 = 27500$; **Answer:** True
   b. $1964 \times 98 + 1964 \times 2 = 1964 \times 100 + 2 \Rightarrow (192472) + (3928) = (196400 + 2)$
   $196400 \neq 196402$; **Answer:** False
   c. $18 \times (17 - 7) = 18 \times 10 \Rightarrow 180 = 180$; **Answer:** True
   d. $38 \times 75 + 38 \times 25 = 76 \times (75 + 25) \Rightarrow (2850) + (950) = 7600$
   $3800 \neq 7600$; **Answer:** False
   e. $972 \times 90 + 10 \times 972 = 972 \times 100 \Rightarrow (87480) + (9720) = 97200$
   $97200 = 97200$; **Answer:** True
   f. $17 \times 98 + 1 \times 17 = 1700 \Rightarrow (1666) + (17) = 1700$
   $1683 \neq 1700$; **Answer:** False

2. a. $17 \times 102 = 17 \times (100 + 2) = 17 \times 100 + 17 \times 2 = 1700 + 34 = 1734$
   b. $248 \times 101 = 248 \times (100 + 1) = 248 \times 100 + 248 \times 1 = 24800 + 248 = 25048$
   c. $12 \times 95 = 12 \times (100 - 5) = 12 \times 100 - 12 \times 5 = 1200 - 60 = 1140$
   d. $16 \times 94 = 16 \times (100 - 6) = 16 \times 100 - 16 \times 6 = 1600 - 96 = 1504$

3. a. $88 \times 15 + 12 \times 15 = 15 \times (88 + 12) = 15 \times 100 = 1500$
   b. $738 \times 98 + 2 \times 738 = 738 \times (98 + 2) = 738 \times 100 = 73800$
   c. $415 \times 973 + 415 \times 27 = 415 \times (973 + 27) = 415 \times 1000 = 415000$
   d. $477 \times 1035 - 477 \times 35 = 477 \times (1035 - 35) = 477 \times (1000) = 477000$
   e. $123 \times 197 - 95 \times 123 = 123 \times (197 - 95) = 123 \times 102 = 12546$
   f. $384 \times 195 - 384 \times 190 = 384 \times (195 - 190) = 384 \times 5 = 1920$

4. Number of suits in a rack = 2 + 6 = 8
   Number of suits in 10 racks = 8 × 10 = 80
   There are 80 suits in 10 racks.

5. Number of students from each school = 52 + 48 = 100
   Number of students from 85 schools = 100 × 85 = 8500
   There are 8,500 students participating in the rally.

6. Number of oranges in 1 basket = 42
   Number of oranges in 48 baskets = 42 × 48 = 2016
   Number of oranges taken away from each basket = 2

Number of oranges taken away from 48 baskets = $2 \times 48 = 96$
Number of oranges left = $2016 - 96 = 1920$
Therefore, 1920 oranges were left.

7. Twelve bowls are there in a box; Red bowls = 4; Blue bowls = $12 - 4 = 8$;
Total number of blue bowls in 75 boxes = $75 \times 8 = 600$

Exercise 2.4

1. Evaluate.

a. $9898 - 999$	b. $672 + 99$	c. $9 + 99 + 999$	d. 121×99
e. 125×999	f. 212×199	g. 664×125	h. 3300×25

Exercise 2.4(Solutions)

1. a. $9898 - 999 = 9898 - 1000 + 1 = 8898 + 1 = 8899$

b. $672 + 99 = 672 + 100 - 1 = 772 - 1 = 771$

c. $9 + 99 + 999 = 10 - 1 + 100 - 1 + 1000 - 1 = 1000 + 100 + 10 - 1 - 1 - 1$
$= 1110 - 3 = 1107$

d. $121 \times 99 = 121 \times (100 - 1) = 121 \times 100 - 121 \times 1 = 12100 - 121 = 11,979$

e. $125 \times 999 = 125 \times (1000 - 1) = 125000 - 125 = 1,24,875$

f. $212 \times 199 = 212 \times (200 - 1) = 212 \times 200 - 212 \times 1 = 42400 - 212 = 42,188$

g. $664 \times 125 = 664 \times \frac{1000}{8} = \frac{664000}{8} = 83,000$

h. $3300 \times 25 = 3300 \times \frac{100}{4} = \frac{330000}{4} = 82500$

H.W.

Revision Time

1. Fill in the blanks.
   a. $72 + 395 + 28 = 395 +$ _____
   b. $491 + 25 - 16 = 9 +$ _____
2. Name the properties used in the following:
   a. $156 + (79 + 8) = (156 + 79) + 8$
   b. $86 \times 101 = 101 \times 86$
   c. $72 \times (168 + 7) = 72 \times 168 + 72 \times 7$
3. Evaluate the following using distributive property of whole numbers.
   a. 36×105 b. 96×143
4. Fill in the blanks.
   a. If you multiply a number by 0, the result is _____.
   b. If you divide a number by 1, the result is _____.
   c. The smallest whole number is _____.
   d. The smallest natural number is _____.
5. Show that
   a. $72 \times (69 \times 5) = (72 \times 69) \times 5$ b. $86 \times (42 - 35) = 86 \times 42 - 86 \times 35$
6. Verify the following results.
   a. $(186 + 95) + 345 = 186 + (95 + 345)$ b. $739 \times (47 + 53) = 739 \times 47 + 739 \times 53$
7. Say whether the following statements are true or false.
   a. $(73 - 57) - 22 = 73 - (57 - 22)$ b. $(100 \div 50) \div 2 \neq 100 \div (50 \div 2)$
8. Check, by actual calculation, whether the following are correct or not.
   a. $526 - 88 = (526 - 80) - 8$
   b. $(163 - 76) - 9 \neq 163 - (76 - 9)$
9. Solve the following by arranging the numbers suitably.
   a. $192 + 3019 + 8$ b. $1459 + 1982 + 56 + 18 + 44$
   c. $50 \times 391 \times 2$ d. $17 \times 125 \times 4 \times 25 \times 8$
10. Using the distributive property of whole numbers, find the value of the following:
    a. 367×101 b. 189×999 c. 225×102 d. 1686×99
11. There are 28 drawing books and 72 scrapbooks in a bundle. How many books will be there in 144 such bundles?
12. A fruit vendor packed 100 apples in a basket. Later, he found some apples were left unpacked. So, he packed 30 apples in each basket. If there were 64 such baskets, how many apples did he pack?

MCQs

1. $48 + 56 =$ ____ $+ 48$
   a. 56 b. 48 c. 0 d. 104
2. $13 \times 43 = 43 \times 13$
   Name the property that satisfies the above expression.
   a. Distributive property b. Commutative property of multiplication
   c. Associative property of multiplication d. Multiplicative identity
3. $73 + 1086 + 27 = 1086 +$ ____
   a. 27 b. 100 c. 1000 d. 10
4. $18 \times 8 \times 125 = 18 \times$ ____
   a. 18000 b. 1800 c. 1000 d. 100
5. The identity for addition of whole numbers is ____.
   a. 0 b. 1 c. 10 d. 100
6. The identity for multiplication of whole numbers is ____.
   a. 10 b. 1 c. 0 d. −1
7. $185 \times 87 + 13 \times 185 = 185 \times$ ____
   a. 87 b. 13 c. 100 d. 74

8. Which one of the following is true?
   a. The order in which two numbers are subtracted does not change their difference.
   b. Commutative property is satisfied for the division of the whole numbers.
   c. Whole numbers are not closed under multiplication.
   d. We cannot divide a whole number by zero.
9. Which of the following is not correct?
   a. $77 \times 126 \times 0 = 0$
   b. $88 \times (15 - 4) = 88 \times 15 - 88 \times 4$
   c. $73 - 16 - 5 = 73 - (16 - 5)$
   d. $97 \times (11 \times 50) = (97 \times 11) \times 50$
10. Which of the following properties does not hold good for whole numbers?
   a. Closure property under multiplication
   b. Commutative property under subtraction
   c. Associative property under addition
   d. Distributive property of multiplication over addition.

Revision Time(Answers)

1. a. 100 b. 491

2. a. Associative b. Commutative c. Distributive
3. a. 3780 b. 13728
4. a. 0 b. Number itself c. 0 d. 1
7. a. False b. True
8. a. Correct b. Correct

MCQs

1. a 2. b 3. b 4. c 5. a 6. b 7. c
8. d 9. c 10. b