RD SHARMA

Solutions

Class 6 Maths

Chapter 4

Ex 4.3

Q1. Fill in the blanks to make each of the following a true statement:

Solution: (i) 785 x 0 = 0

(ii) 4567 x 1 = 4567 (Multiplicative identity)

(iii) 475 x 129 = 129 x 475 (Commutativity)

(iv) 1243 x 8975 = 8975 x 1243 (Commutativity)

(v) 10 x 100 x 10 = 10000

(vi) 27 x 18 = 27 x 9 + 27 x 4 + 27 x 5

(vii) 12 x 45 = 12 x 50 − 12 x 5

(viii) 78 x 89 = 78 x 100 − 78 x 16 + 78 x 5

(ix) 66 x 85 = 66 x 90 − 66 x 4 − 66

(x) 49 x 66 + 49 x 34 = 49 x (66 + 34)

Q2. Determine each of the following products by suitable rearrangements:

Solution: (i) 2 x 1497 x 50

= (2 x 50) x 1497 = 100 x 1497 = 149700

(ii) 4 x 358 x 25

= (4 x 25) x 358 = 100 x 358 = 35800

(iii) 495 x 625 x 16

= (625 x 16) x 495 = 10000 x 495 = 4950000

(iv) 625 x 20 x 8 x 50

= (625 x 8) x (20 x 50) = 5000 x 1000 = 5000000

Q3. Using distributivity of multiplication over addition of whole numbers, find each of the following products:

Solution: (i) 736 x 103 = 736 x (100 + 3)

{Using distributivity of multiplication over addition of whole numbers}

= (736 x 100) + (736 x 3)

= 73600 + 2208 = 75808

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

{Using distributivity of multiplication over addition of whole numbers}

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

= 258000 + 2064 = 260064

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

{Using distributivity of multiplication over addition of whole numbers}

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

= 258000 + 2064 = 260064

Q4. Find each of the following products:

Solution: (i) 736 x 93

Since, 93 = (100 − 7)

Therefore, 736 x (100 − 7)

= (736 x 100) − (736 x 7)

(Using distributivity of multiplication over subtraction of whole numbers)

= 73600 − 5152 = 68448

(ii) 816 x 745

Since, 745 = (750 − 5)

Therefore, 816 x (750 − 5)

= (816 x 750) − (816 x 5)

(Using distributivity of multiplication over subtraction of whole numbers)

= 612000 − 4080 = 607920

(iii) 2032 x 613

Since, 613 = (600 +13)

Therefore, 2032 x (600 + 13)

= (2032 x 600) + (2032 x 13)

= 1219200 + 26416 = 1245616

Q5. Find the values of each of the following using properties:

Solution: (i) 493 x 8 + 493 x 2

= 493 x (8 + 2)

(Using distributivity of multiplication over addition of whole numbers)

= 493 x 10 = 4930

(ii) 24579 x 93 + 7 x 24579

= 24579 x (93 + 7)

(Using distributivity of multiplication over addition of whole numbers)

= 24579 x 100 = 2457900

(iii) 1568 x 184 – 1568 x 84

= 1568 x (184 – 84)

(Using distributivity of multiplication over subtraction of whole numbers)

= 1568 x 100 = 156800

(iv) 15625 x 15625 – 15625 x 5625

= 15625 x (15625 – 5625)

(Using distributivity of multiplication over subtraction of whole numbers)

= 15625 x 10000 = 156250000

Q6. Determine the product of:

(i) the greatest number of four digits and the smallest number of three digits.

(ii) the greatest number of five digits and the greatest number of three digits.

Solution: (i) The largest four-digit number = 9999

The smallest three – digit number = 100

Therefore, Product of the smallest three-digit number and the largest four-digit number = 9999 x 100 = 999900

(ii) The largest five – digit number = 9999

The largest number of three digits = 999

Therefore, Product of the largest three-digit number and the largest five-digit number

= 9999 x 999

= 9999 x (1000 — 1)

= (9999 x 1000) — (9999 x 1)

= 9999000 – 9999

= 9989001

Q7. In each of the following, fill in the blanks, so that the statement is true:

Solution: (i) (500 + 7) (300 – 1)

= 507 x 299

= 299 x 507 (Commutativity)

(ii) 888 + 777 + 555

= 111 (8 + 7 + 5)

= 111 x 20 (Distributivity)

(iii) 75 x 425

= (70 + 5) x 425

= (70 + 5) (340 + 85)

(iv) 89 x (100 – 2)

= 89 x 98

= 98 x 89

= 98 x (100 – 11) (Commutativity)

(v) (15 + 5) (15 – 5)

= 20 x 10

= 200

= 225 – 25

(vi) 9 x (10000 + 974)

= 98766

Q8. A dealer purchased 125 color television sets. If the cost of each set is Rs 19820, determine the cost of all sets together.

Solution: Cost of 1 color television set = Rs 19820

Therefore, Cost of 125 color television sets = Rs (19820 x 125)

= Rs 19820 x (100 + 25)

= Rs (19820 x 100) + (19820 x 25)

= Rs 1982000 + 495500

= Rs 2477500

Q9. The annual fee charged from a student of class 6ᵗʰ in a school is Rs 8880. If there are, in all, 235 students in class 6ᵗʰ, find the total collection.

Solution: Fees charged from 1 student = Rs 8880

Therefore, Fees charged from 235 students = Rs 8880 x 235

= 2086800

Thus, the total collection from class VI students is Rs 2086800.

Q10. A group housing society constructed 350 flats. If the cost of construction for each flat is Rs 993570, what is the total cost of construction of all the flats.

Solution: Cost of construction of 1 flat = Rs 993,570

Total number of flats constructed = 350

Total cost of construction of 350 flats = Rs (993,570 x 350)

= Rs 347,749,500

Q11. The product of two whole numbers is zero. What do you conclude?

Solution: If the product of two whole numbers is zero, then it means that either one of them is zero or both of them are zero.

Q12. What are the whole numbers which when multiplied with itself gives the same number?

Solution: There are two numbers which when multiplied with themselves give the same numbers.

(i) 0 x 0 = 0

(ii) 1 x 1 = 1

Q13. In a large housing complex, there are 15 small buildings and 22 large building. Each of the large buildings has 10 floors with 2 apartments on each floor. Each of the small buildings has 12 floors with 3 apartments on each floor. How many apartments are there in all.

Solution: Number of large buildings = 22

Number of small buildings = 15

Number of floors in 1 large building = 10

Number of apartments on 1 floor = 2

Therefore, Total apartments in 1 large building = 10 x 2 = 20

Similarly,

Total apartments in 1 small building = 12 x 3 = 36

Therefore, Total apartments in the entire housing complex = (22 x 20) + (15 x 36)

= 440 + 540

= 980