

Multiplication

In Class 3, we have learnt how to multiply a given number by a number consisting of two or less digits. We have also studied the various properties of multiplication.

In a multiplication sum:

The number to be multiplied is called the **Multiplicand**.

The number by which we multiply is called the **Multiplier**.

And, the result of multiplication is called the **Product**.

Example: In $123 \times 4 = 492$, we have:

multiplicand = 123, multiplier = 4 and product = 492.



Properties of Multiplication

1. Order Property of Multiplication

Example 1: Find the products: 36×23 and 23×36 .

What do you conclude?

Solution: We have:

	3	6
×	2	3
	1	0
+	7	2
	8	2
		8

	2	3
×	3	6
	1	3
+	6	9
	8	2
		8



Conclusion: We have, $36 \times 23 = 23 \times 36$.

We may take the products of other numbers, taken in pairs. We shall find in each case that by changing the order of numbers, the product is not changed.

This result is true for large numbers also. Thus,

The product of two numbers does not change, when the order of numbers is changed. This property is known as **Order Property of Multiplication**.

Multiplication and Division

Exercise - 13

Find the following products.

(6) 95×30

Solution $\Rightarrow 95 \times 30 = 95 \times 3 \times 10$
 $= (95 \times 3) \times 10$
 $= 285 \times 10$
 $= 2850$ Ans

(12) 819×500

Solution $\Rightarrow 819 \times 500 = 819 \times 5 \times 100$
 $= (819 \times 5) \times 100$
 $= 4095 \times 100$
 $= 409500$ Ans

4
819
$\times 5$
4095

(18) 627×5000

Solution $\Rightarrow 627 \times 5000 = 627 \times 5 \times 1000$
 $= (627 \times 5) \times 1000$
 $= 3135 \times 1000$
 $= 3135000$ Ans

②
627
$\times 5$
3135

(8) 109×70

Solution $109 \times 70 = 109 \times 7 \times 10$
 $= (109 \times 7) \times 10$
 $= 763 \times 10$
 $= 7630$ Ans

$$\begin{array}{r} 109 \\ \times 7 \\ \hline 763 \end{array}$$

(16) 127×3000

Solution $127 \times 3000 = 127 \times 3 \times 1000$
 $= (127 \times 3) \times 1000$
 $= 381 \times 1000$
 $= 381000$ Ans

$$\begin{array}{r} 127 \\ \times 3 \\ \hline 381 \end{array}$$

Ans 7

By Using suitable grouping, find the following products.

(19) $2 \times 36 \times 5$

Solution $2 \times 36 \times 5 = (2 \times 5) \times 36$
 $= 10 \times 36$
 $= 360$ Ans

(21) $4 \times 68 \times 25$

Solution $4 \times 68 \times 25 = (4 \times 25) \times 68$
 $= 100 \times 68$
 $= 6800$ Ans

$$\begin{array}{r} 4 \\ \times 25 \\ \hline 100 \end{array}$$

(23) $36 \times 4 \times 125$

Solution

$$\begin{aligned} 36 \times 4 \times 125 &= (36 \times 4) \times 125 \\ &= 144 \times 125 \\ &= 18000 \text{ Ans} \end{aligned}$$

$$\begin{array}{r} 2 \\ 36 \\ \times 4 \\ \hline 144 \\ 22 \\ 144 \\ \hline \end{array}$$

$$\times 125$$

$$\begin{array}{r} 18000 \\ \hline \end{array}$$

$$2880$$

$$14400$$

$$\hline 18000$$

OR

(23) $36 \times 4 \times 125$

Solution

$$\begin{aligned} 36 \times 4 \times 125 &= (125 \times 4) \times 36 \\ &= 500 \times 36 \\ &= (5 \times 36) \times 100 \\ &= 180 \times 100 \\ &= 18000 \text{ Ans} \end{aligned}$$

$$\begin{array}{r} 125 \\ \times 4 \\ \hline 500 \\ 36 \\ \times 5 \\ \hline 180 \end{array}$$

H.W

20, 22

Exercise 14Multiply

(10) 654 by 827

Solution

$$\begin{aligned}
 654 \times 827 &= 654 \times (800 + 20 + 7) \\
 &= 654 \times 800 + 654 \times 20 + 654 \times 7 \\
 &= 523200 + 13080 + 4578 \\
 &= \begin{array}{r}
 523200 \\
 13080 \\
 + 4578 \\
 \hline
 540858
 \end{array}
 \end{aligned}$$

Ans

(15) 2317 by 498

Solution

$$\begin{array}{r}
 2317 \\
 \times 498 \\
 \hline
 18536 \quad \leftarrow (2317 \times 8) \\
 208530 \quad \leftarrow (2317 \times 9) \\
 + 926800 \quad \leftarrow (2317 \times 4) \\
 \hline
 1153866 \quad \leftarrow \text{Ans} \quad \leftarrow (2317 \times 498)
 \end{array}$$

(21) 1023 by 570

Solution

$$\begin{array}{r} 1023 \\ \times 570 \\ \hline 0000 \quad \leftarrow (1023 \times 0) \\ 71610 \quad \leftarrow (1023 \times 7) \\ 511500 \quad \leftarrow (1023 \times 5) \\ \hline 583110 \quad \leftarrow (1023 \times 570) \end{array}$$

Ans

H.W - 12, 14, 18

Exercise 15

Q-1 In an orchard there are 98 rows of mango trees. How many trees are there in the orchard, if each row has 87 trees?

Solution No. of trees in each row = 87
So, No. of trees in 98 rows = 87×98

$$\begin{array}{r} 87 \\ \times 98 \\ \hline 696 \leftarrow (87 \times 8) \\ + 7830 \leftarrow (87 \times 9) \\ \hline 8526 \leftarrow (87 \times 98) \end{array}$$

So, Ans = 8526

Q-2 A box contains 124 oranges. How many oranges are there in 139 such boxes?

Solution → No. of oranges in one box = 124
So, No. of oranges in 139 boxes = 124×139

$$\begin{array}{r} 124 \\ \times 139 \\ \hline 1116 \\ 3720 \\ + 12400 \\ \hline 17236 \end{array}$$

Ans = 17236

Page No.: _____
Date _____
Q=5 One ream of paper contains 480 sheets.
How many sheets of paper are there
in 375 reams?

87
87 x 98

Solution No. of sheets in one ream of paper = 480
So No. of sheets in 375 reams = 480×375

$$\begin{array}{r} 480 \\ \times 375 \\ \hline 2400 \\ 33600 \\ 144000 \\ \hline 180000 \end{array} \quad \underline{\text{Ans}}$$

many
boxes?

x 139

Q=7 The cost of a chair is ₹ 697. How much
will 369 chairs cost?

Solution Cost of a chair = ₹ 697
So, Cost of 369 chairs = 697×369

$$\begin{array}{r} 697 \\ \times 369 \\ \hline 6273 \\ 41820 \\ 209100 \\ \hline 257193 \end{array} \quad \underline{\text{Ans}}$$

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Q=10

There are four sections in class 4 of a school. Each section consists of 47 students. If the monthly fee of each student is ₹ 583, find the total amount of fee collected from the whole class in a month.

Solution

Total No. of students in class 4 of all sections

$$= 47 \times 4$$

$$= \underline{188} \text{ students.}$$

If the monthly fee of each student = ₹ 583

So the monthly fee of 188 students = 583×188

$$\begin{array}{r}
 583 \\
 \times 188 \\
 \hline
 4664 \\
 46640 \\
 + 58300 \\
 \hline
 \underline{\underline{₹ 109604}}
 \end{array}$$

Ans

A.W - 3, 4, 6, 8, 9, 11

Exercise - 16

Find the quotient and remainder when you divide. Also, check your answer in each question.

(1) 5479 by 12

Solution $\Rightarrow 5479 \div 12$

$$12 \overline{) 5479} \quad 456$$

$$\underline{- 48}$$

$$x 67$$

$$\underline{- 60}$$

$$Q = 456$$

$$R = 7$$

$$x 79$$

$$\underline{- 72}$$

$$x 7$$

Check

$$\text{Dividend} = (\text{Divisor} \times \text{Quotient}) + \text{Remainder}$$

$$= (12 \times 456) + 7$$

$$= 5472 + 7$$

$$\text{Dividend} = 5479$$

Our Answer is correct.

Q=5 9546 by 38

Solution 9546 by 38 = $9546 \div 38$

$$38 \overline{) 9546} \quad 251$$

$$\underline{- 76}$$

$$194$$

$$\underline{- 190}$$

$$Q = 251$$

$$R = 6$$

$$D = 38$$

$$x 46$$

$$\underline{- 38}$$

$$x 8$$

Check

$$\text{Dividend} = (\text{Divisor} \times \text{Quotient}) + R$$

$$= (38 \times 251) + 6$$

$$= 9538 + 6$$

$$\text{Dividend} = 9546$$

Our Answer is correct.

(13) 10000 by 74

Solution

$$10000 \div 74$$

H.W - 6, 17

$$74 \overline{) 10000} (135$$

$$\begin{array}{r}
 -74 \downarrow \\
 \times 260 \\
 -222 \downarrow \\
 \times 380 \\
 -370 \\
 \times 10
 \end{array}$$

check

$$\begin{aligned}
 \text{Divident} &= (\text{Divisor} \times \text{Quotient}) + R \\
 &= (74 \times 135) + 10
 \end{aligned}$$

$$= 9990 + 10$$

(18)

87025 by 29

$$\text{Dividend} = 10,000$$

Our Answer is correctSolutionSolution

$$87025 \div 29$$

check

$$29 \overline{) 87025} (3000$$

$$\begin{array}{r}
 -87 \downarrow \downarrow \downarrow \\
 \times 025
 \end{array}$$

$$\begin{aligned}
 \text{Dividend} &= (\text{Divisor} \times \text{Quotient}) + R \\
 &= (29 \times 3000) + 25 \\
 &= 87000 + 25
 \end{aligned}$$

$$\text{Dividend} = 87025$$

Our Answer is correct.Q=19

Find the quotient when divided = 5940 and divisor = 54

Solution

We have

$$\text{Divided} = (\text{Divisor} \times \text{Quotient}) + \text{Remainder}$$

$$5940 = (54 \times \text{Quotient}) + 0$$

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$$\Rightarrow 5940 \div 54 = \text{Quotient}$$

$$\Rightarrow 54 \overline{) 5940} \quad 110$$

$$\begin{array}{r} -54 \cancel{0} \\ \times 54 \cancel{0} \\ -54 \cancel{0} \\ \times 0 \\ -0 \\ \hline 0 \end{array}$$

Check

$$\text{Dividend} = (\text{Divisor} \times \text{quotient}) + R$$

$$= (54 \times 110) + 0$$

$$\text{Dividend} = 5940$$

Our Answer is correct.

Q-21 Find the dividend, when quotient = 56, divisor = 65 and remainder = 50

Solution

$$\text{Dividend} = (\text{Divisor} \times \text{quotient}) + \text{Remainder}$$

$$= (65 \times 56) + 50$$

$$= 3640 + 50$$

$$= 3690$$

Ans $\Rightarrow$

$$\underline{\underline{\text{Dividend} = 3690}}$$

$$\begin{array}{r} 65 \\ \times 56 \\ \hline 390 \\ 3250 \\ \hline 3640 \\ + 50 \\ \hline 3690 \end{array}$$

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Exercise = 18

(1) 6426 bags of cement were equally loaded on 17 trucks. How many bags were loaded on each truck?

Solution If No. of bags on 17 trucks = 6426
So No. of bags on each (1) truck = $6426 \div 17$

$$\begin{array}{r}
 17 \overline{) 6426} \quad (378 \\
 \underline{51} \\
 132 \\
 \underline{-119} \\
 x136 \\
 \underline{-136} \\
 x
 \end{array}$$

Ans $\Rightarrow$ 378 bags

Q=4 98 bags of wheat can be loaded in a tempo. How many tempos will be needed to load 3038 such bags?

Solution No. of bags in a tempo = 98
So, No. of tempos will be needed to load 3038 such bags =

$$3038 \div 98$$

$$\begin{array}{r}
 98 \overline{) 3038} \quad (31 \\
 \underline{- 294} \downarrow \\
 \times \times 98 \\
 \underline{- 98} \\
 \times
 \end{array}$$

Ans $\Rightarrow$ 31 temples

Q-5 Mrs Vandana withdrew ₹ 9040 from her bank account. The cashier paid her the money in 20 rupee denominations. How many notes did she get?

Solution Total amount withdrawn = ₹ 9040
The Denomination of each note = ₹ 20

So, No. of Rs 20 she get = ₹ 9040 $\div$ 20

$$\begin{array}{r}
 20 \overline{) 9040} \quad (452 \\
 \underline{- 80} \downarrow \\
 \underline{104} \downarrow \\
 \underline{- 100} \downarrow \\
 \times \times 20 \\
 \underline{- 40} \\
 \times
 \end{array}$$

Ans $\Rightarrow$ 452 notes

Date: / /

Q=8

A fruit seller bought 7300 oranges. Out of these, 64 were found rotten. Remaining oranges were packed equally in 67 boxes. Find the number of oranges in each box.

Solution→

$$\begin{array}{r}
 \text{Total No. of Oranges} = 7300 \\
 \text{No. of oranges rotten} = 64 \\
 \hline
 \text{Remaining } \text{orange} = 7236
 \end{array}$$

If No. of oranges packed in 67 boxes = 7236
 So. No. of oranges packed in each box = $7236 \div 67$

$$\begin{array}{r}
 67 \overline{) 7236} \quad (108 \\
 \underline{- 67} \downarrow \downarrow \\
 536 \\
 \underline{- 536} \\
 0
 \end{array}$$

Ans → 108 oranges

Q=9

36 eggs can be packed in one tray. How many trays will Rohman need to pack 1264 eggs? How many eggs will be left?

Solution→

If No. of tray need for packed 36 eggs = one
 So. No. of tray need for packed 1264 eggs =

$$1264 \div 36$$

$$\begin{array}{r}
 36 \overline{) 1264} \quad \text{L35} \\
 \underline{- 108} \downarrow \\
 \times 184 \\
 \underline{- 180} \\
 \times 4
 \end{array}$$

No. of tray = 35

No. of eggs left = 4

Q-11 The product of two number is 9156. If one of the number is 84, find the other.

Solution Product of two number = 9156
 One number = 84
 So, the other number = $9156 \div 84$

$$\begin{array}{r}
 84 \overline{) 9156} \quad \text{L109} \\
 \underline{- 84} \downarrow \\
 \times 756 \\
 \underline{- 756} \\
 \times
 \end{array}$$

Ans = So other number is 109

Q=12

How many hours are there in 3240 minutes?

Solution

We know that

If 60 minutes = 1 hour

So, 3240 minutes = $3240 \div 60$

$$\begin{array}{r} 60 \overline{) 3240} \quad 54 \\ \underline{-3000} \\ 240 \\ \underline{-240} \\ 0 \end{array}$$

Ans $\Rightarrow$ 54 hours

~~05/7/25~~