

5. Multiplication : Part 1



Revision

Eight dozen bananas were bought to give to the children.

Mahendra : One dozen bananas is 12 bananas. How many are 8 dozen?

Kamal : To find out, we must multiply 12 by 8. This multiplication can be done using the lattice method. So, let's use this method.

$$12 = 10 + 2$$

×	10	2
8	80	16

$$\begin{array}{r} 80 \\ + 16 \\ \hline 96 \end{array}$$

Eight dozen bananas means 96 bananas.

Kamal : Now answer this. Students are standing in 15 rows for a drill. There are 37 students in each row. How many students are there altogether?

Mahendra : I will tell you. To answer this, I will have to multiply 37 by 15.

×	30	7
10	300	70
5	150	35

$$37 = 30 + 7 ; 15 = 10 + 5$$

$$300 + 150 + 70 + 35 = 555$$

There are 555 children in all on the field.

Exercise

Multiply the following.

- (1) 53×8 (2) 25×9 (3) 86×5 (4) 75×11 (5) 41×14 (6) 68×12

Multiplying a three-digit number

Multiplying whole hundreds by a one-digit number

4×100 , is also $4 \times 1H = 4H = 400$; Also, $6 \times 100 = 600$; $2 \times 400 = 800$.

◆ ₹ 300 were to be collected from each student for a picnic. 4 students paid on the first day. What was the total amount collected on that day?

Kamal : To solve this, we will have to take 300, 4 times.

Mahendra : 300 is 3 hundreds. 4 times 3 hundreds, $3H \times 4 = 12H$, that is 1200.

Kamal : ₹ 1200 were collected on the first day.

Remember : While multiplying whole hundreds by another number, multiply the hundreds digit by the other number and write two zeroes in front of the product.

◆ If 40 students pay ₹ 300 each, what is the total amount of fees collected?

Tony : 40 times 300 = $3 \text{ H} \times 40 = 120 \text{ H} = 12000$. While multiplying 300 by 40, we can multiply the 3 by 4 to get 12; then we can place the 2 zeroes from 300 and one zero from 40 in front of the product 12.

Exercise

Carry out the following multiplications.

(1) $4 \text{ H} \times 5 = 2000$

(7) $7 \text{ H} \times 2 = \boxed{}$

(2) $20 \times 3 \text{ H} = \boxed{}$

(8) $20 \times 300 = \boxed{}$

(3) $40 \times 500 = \boxed{}$

(9) $600 \times 30 = \boxed{}$

(4) $800 \times 60 = \boxed{}$

(10) $900 \times 20 = \boxed{}$

(5) $35 \times 200 = \boxed{}$

(11) $600 \times 42 = \boxed{}$

(6) $\boxed{} \times 70 = 7000$

(12) $15 \times \boxed{} = 30000$

Multiplying any three-digit number by a one-digit number

◆ One set of textbooks costs ₹245. What is the cost of 8 such sets?

Since the cost of 8 sets of textbooks will be eight times the cost of one set, we will multiply 245 by 8. Remember that $245 = 200 + 40 + 5$.

×	200	40	5
8	1600	320	40

$$\begin{array}{r} 1600 \\ + 320 \\ + 40 \\ \hline 1960 \end{array}$$

Therefore, the cost of 8 sets is ₹1960.

Exercise

1. Multiply.

(1) 124×3

(2) 367×5

(3) 408×9

(4) 627×8

(5) 840×4

(6) 716×7

2. The cost of 1 chair is ₹650. What is the cost of 4 such chairs?

3. One small sack of rice costs ₹825. How much do 5 such sacks cost ?

Multiplying a three-digit number by a two-digit number

- ◆ While planting rice, 28 rows have been planted with 244 seedlings in each row. How many seedlings have been planted ?

There are 244 seedlings in each row. So, there must be 28 times as many seedlings in 28 rows.

We will multiply 244 by 28.

$$244 = 200 + 40 + 4$$

$$28 = 20 + 8$$

×	200	40	4
20	4000	800	80
8	1600	320	32

4000
+ 1600
+ 800
+ 320
+ 80
+ 32
6832

6832 seedlings have been planted.

- ◆ Multiply : 709×76

$$709 = 700 + 0 + 9$$

$$76 = 70 + 6$$

×	700	0	9
70	49000	0	630
6	4200	0	54

49000
+ 4200
+ 630
+ 54
53884

Hence, $709 \times 76 = 53884$

Exercise

1. Multiply.

(1) 819×12

(2) 545×38

(3) 953×38

(4) 610×45

(5) 407×55

(6) 781×90

2. The concessional rate of one English dictionary is ₹175. If 31 students in a class give their teacher that amount for the dictionary, how much money has the teacher collected ?
3. A van carries 205 crates of mangoes. If each crate contains 48 mangoes, how many mangoes are there in the van ?