Tender Heart High School ; Sec-33B ; Chd.

Class: IV
Subject:- Mathematics

Date:- 20.05.24
Teacher:- Ms. Sushma

Chapter -3
Multiplication

Multiplication is a method of finding the product of two or more numbers

Properties of Multiplication:

- Numbers can be multiplied in any order, the product remains the same.

$$8 \times 7 = 56 \xleftrightarrow{\text{is the same}} 7 \times 8 = 56$$

- Factors can be grouped in any way, the product remains the same.

$$(5 \times 2) \times 6 = 10 \times 6 = 60$$
$$5 \times (2 \times 6) = 5 \times 12 = 60$$

- When a number is multiplied by 1, the product is the number itself.

$$6 \times 1 = 6$$

- When a number is multiplied by 0, the product is 0.

$$6 \times 0 = 6$$

Exercise 3.1

A. Find the product.

1.
$$\begin{array}{r} 232 \\ \times \quad 2 \\ \hline 464 \end{array}$$

2.
$$\begin{array}{r} {\scriptstyle (4)\,(1)} \\ 283 \\ \times \quad 5 \\ \hline 1415 \end{array}$$

3.
$$\begin{array}{r} {\scriptstyle (5)\,(5)} \\ 167 \\ \times \quad 8 \\ \hline 1336 \end{array}$$

4.
$$\begin{array}{r} 308 \\ \times \quad 7 \\ \hline 2156 \end{array}$$

5.
$$\begin{array}{r} 1321 \\ \times \quad 2 \\ \hline 2642 \end{array}$$

6.
$$\begin{array}{r} {\scriptstyle (1)} \\ 1308 \\ \times \quad 6 \\ \hline 7848 \end{array}$$

B. Multiply horizontally to find the product.

1. $421 \times 3 = 1263$

2. $234 \times 4 = 936$

3. $507 \times 8 = 4056$

4. $6051 \times 6 = 36306$

5. $2039 \times 5 = 10195$

Exercise 3.2

A. Multiply by expanding the greater number.

1. 152×3

$152 = 100 + 50 + 2$

$= (100 \times 3) + (50 \times 3) + (2 \times 3)$
$= 300 + 150 + 6$
$= 456$

2. 416×4

$416 = 400 + 10 + 6$
$= (400 \times 4) + (10 \times 4) + 6 \times 4$
$= 1600 + 40 + 24$
$= 1664$

3. 2617×6

$2617 = 2000 + 600 + 10 + 7$

$= (2000 \times 6) + (600 \times 6) + (10 \times 6) + 7 \times 6$
$= 12000 + 3600 + 60 + 42$
$= 15702$

4. 5028×9

$5028 = 5000 + 20 + 8$

$= (5000 \times 9) + (20 \times 9) + 8 \times 9$
$= 45000 + 180 + 72$
$= 45252$

B. Write the product.

1. $27 \times 30 = 810$

2. $35 \times 40 = 1400$

3. $114 \times 70 = 7980$

4. $215 \times 20 = 4300$

5. $1145 \times 10 = 11450$

6. $6153 \times 90 = 553770$

Exercise 3.3

Find the product

1. 59×72

$$\begin{array}{r} 59 \\ \times\ 72 \\ \hline 118 \\ 413\times \\ \hline 4248 \end{array}$$

2. 68×83

$$\begin{array}{r} 68 \\ \times 83 \\ \hline 204 \\ 544\times \\ \hline 5644 \end{array}$$

3. 76×76

$$\begin{array}{r} 76 \\ \times\ 76 \\ \hline 456 \\ 532\times \\ \hline 5776 \end{array}$$

4. 84×58

$$\begin{array}{r} 84 \\ \times\ 58 \\ \hline 672 \\ 420\times \\ \hline 4872 \end{array}$$

5. 407×35

$$\begin{array}{r} 407 \\ \times\ 35 \\ \hline 2035 \\ 1221\,x \\ \hline 14245 \end{array}$$

6. 3087×27

$$\begin{array}{r} 3087 \\ \times\ 27 \\ \hline 21609 \\ 6174\,x \\ \hline 83349 \end{array}$$

7. 1269×78

$$\begin{array}{r} 1269 \\ \times\ 78 \\ \hline 10152 \\ 8883\,x \\ \hline 98982 \end{array}$$

8. 9037×11

$$\begin{array}{r} 9037 \\ \times\ 11 \\ \hline 9037 \\ 9037\,x \\ \hline 99407 \end{array}$$

Exercise 3.4

Find the product.

1. $223 \times 200 = 44600$

2. $216 \times 400 = 86400$

3. 364×215

$$\begin{array}{r} 364 \\ \times\ 215 \\ \hline 1820 \\ 364\,x \\ 728\,x\,x \\ \hline 78260 \end{array}$$

$$\begin{array}{r} 223 \\ \times\ 2 \\ \hline 446 \end{array}$$

$$\begin{array}{r} 216 \\ \times\ 4 \\ \hline 864 \end{array}$$

4. 429 x 219

```
  429
x 219
 3861
 429x
858xx
93951
```

5. 309 x 312

```
  309
x 312
  618
 309x
927xx
96408
```

6. 516 x 170

```
  516
x 170
  000
3612x
516xx
87720
```

7. 386 x 256

```
  386
x 256
 2316
1930x
772xx
98816
```

Exercise 3.5

A Estimate the product by rounding off each factor to the nearest 10.

1. 42 x 78

42 } round off to the nearest 10 → 40
78 } → x 80
Estimated product = 3200

2. 82 x 33

82 } round off to the nearest 10
33 }

80
x 30
2400

3. 67 x 26

67 } round off to the nearest 10
26 }

70
x 30
2100

4. 43 x 31

43 } round off to the nearest 10
31 }

40
x 30
1200

B. Estimate the product by rounding off each factor to the nearest 100.

1. 417 x 126

417 } round off to the nearest 100
126 }

400
x 100
40000

2. 563 x 724

563 } round off to the nearest 100
724 }

600
x 700
420000

3. 327×168

327 } round off to the nearest 100
168 }

300
$\times 200$
60000

4. 231×627

231 } round off to the nearest 100
627 }

200
$\times 600$
120000

C. Estimate the product by rounding off each factor to the nearest 100.

1. 879 students of a school donated money for the Flood Relief Fund. If each student gave ₹125, approximately how much money was collected?

Soln:⇒ Money donated by each student = ₹125
Total no. of students = 879

Round off ₹125 to the nearest 100 = ₹100
Round off 879 to the nearest 100 = 900

Approximate money collected by all students
$= 100 \times 900$
$= ₹90,000$

2. There are 593 beads in a bag. How many beads will be there approximately in 205 such bags?

Soln:- Estimated beads in 1 bag = 600
Estimated beads in 200 bags = 600 x 200
= 120000
So, There approx 120000 beads in all.

Exercise 3.6

A Solve these story sums.

1. Preeti collected ---------- Preeti collect?

Soln:→ Money collected from 1 member = ₹150
Money collected from 9 members = 150 x 9
= ₹ 1350
So, ₹ 1350 collected ~~from~~ by Preeti.

2. There are 365 days in a year. How many days are there in 8 years?

Soln:- No. of days in a year = 365
No. of days in 8 year = 365 x 8
= 2920
So, There are 2920 days in 8 years.

3. A plane covers a distance of 1980 km to reach from place A to place B. How much distance will it cover in two round trips.

Soln:→

A ——— 1980 km ——— B

Distance covered by a plane from A to B = 1980km

Distance covered by a plane in two round trip = 1980 × 4

= 7920 km

4. 215 books are placed in a rack. There are 43 such racks in the library. How many books does does the library have?

Soln:→ No. of books in a rack = 215

No. of books in 43 rack = 215 × 43 = 9245

$$\begin{array}{r} 215 \\ \times\ 43 \\ \hline 645 \\ 860\times \\ \hline 9245 \end{array}$$

So, There are 9245 books in the library.

5. John pays ..... fee for a year.

Soln:→ Fee paid for every month = ₹997

" " " 1 year (12 months) = 997 × 12

= ₹11964

$$\begin{array}{r} 997 \\ \times\ 12 \\ \hline 1994 \\ 997\times \\ \hline 11964 \end{array}$$

6. Meena has 732 fifty-rupee notes. How much money does Meena have?

Soln:- No of ₹50 notes = 732
Total amount Meena have = 732 x 50
= ₹36600

So, Meena have ₹36600.

7. 537 buttons are produced by a factory every day. If the factory works every day of the month, how many buttons will it produce in in the month of March?

Soln:- Production of buttons in a day = 537
Production of buttons in 31 days = 537 x 31
{March Month}

$$\begin{array}{r} 537 \\ \times\ 31 \\ \hline 537 \\ 1611\,x \\ \hline 16647 \end{array}$$

So, 16647 buttons are produced in the month of March.

8. A farmer plants 135 apples trees in a row. How many apples trees will he plant in 32 such rows?

Soln:- No. of plants planted in 1 row = 135
No. of plants planted in 32 rows = 135 x 32

$$\begin{array}{r} 132 \\ \times\ 32 \\ \hline 264 \\ 396\times \\ \hline 4324 \end{array}$$

So, there are 4324 apple trees planted in 32 rows.

9. A bicycle costs ₹1279. What will be the cost of 26 such bicycles?

Soln:- Cost of a bicycle = ₹1279

Cost of 26 bicycles = 1279×26

$$\begin{array}{r} 1279 \\ \times\ 26 \\ \hline 7674 \\ 2558\times \\ \hline 33254 \end{array}$$

So, the cost of 26 bicycles is ₹33254.

10. Anu studies 2 hours every day. How many minutes does she study in a week?

Soln:- 1 hour = 60 minutes ; 1 week = 7 days

Duration of study in a day = 2 hours = 2×60
= 120 minutes

Duration of study in 7 days = 120×7
= 840 minutes.

So, Anu studies 840 minutes in a week.