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Jender Heart High School, Sec-33B, Chandigarh

Class - IV

Date - 03.07.24

Subject - Mathematics

Teacher - Ms. Sushma

Chapter 4 : Division

Division means equal sharing or equal grouping.

Suppose, four friends have to share 12 bananas equally.

Then how many bananas will each friend get?

12 bananas are divided into 4 groups.

Clearly, each friend will get 3 bananas.

That is,

$$12 \div 4 = 3$$

Division is inverse of multiplication.

From the above,

We observe that,

$$4 \times 3 = 12 \text{ gives } 12 \div 4 = 3,$$

Here, we can also see $3 \times 4 = 12$ that gives $12 \div 3 = 4$

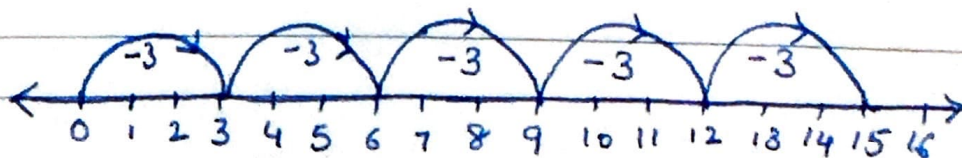
Division is Repeated Subtraction

eg:- $72 \div 12 = 6$, $60 - 12 = 48$, $48 - 12 = 36$, $36 - 12 = 24$,
 $24 - 12 = 12$, $12 - 12 = 0$

It shows that 12 can be subtracted 6 times from 72.

So, we write $72 \div 12 = 6$

Division on the Number Line:- $15 \div 3 = 5$



Terms Related to Division

In a division sum, the number to be divided is called the dividend, the number by which we divide is called the divisor, the result obtained on division is called the quotient and the number which is left undivided is called the remainder.

eg:-

$$\begin{array}{r} 4 \leftarrow \text{Quotient} \\ \text{Divisor} \rightarrow 9 \overline{) 38} \leftarrow \text{Dividend} \\ \underline{-36} \\ 02 \leftarrow \text{Remainder} \end{array}$$

Checking Division:

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

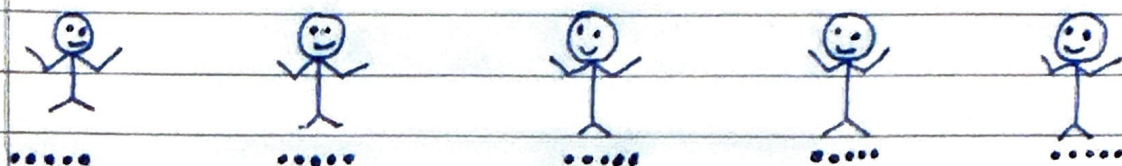
Properties of Division: $\rightarrow$

1. When any number is divided by 1, the quotient is the number itself.
2. When any number is divided by itself (except 0), the quotient is 1.
3. When 0 is divided by any number, the quotient is always 0.
4. Division by zero is not possible.

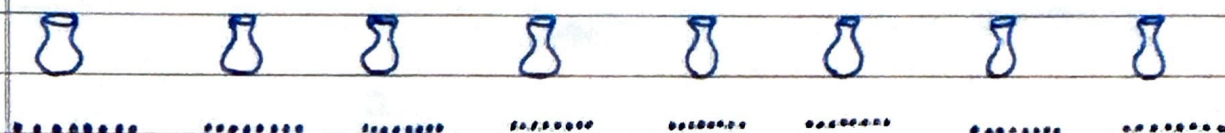
Exercise 4.1

A. Share equally by drawing dots.

1. 25 balloons among 5 children.

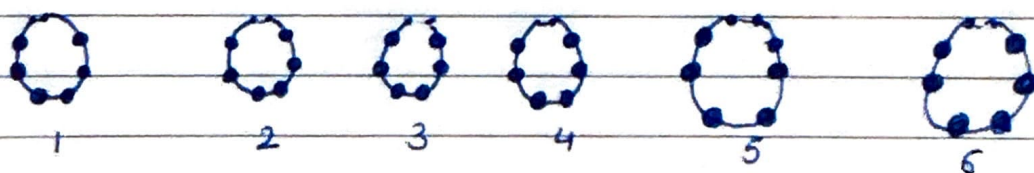


2. 64 flowers in 8 vases.



B. Divide by equal grouping.

1. Priya has 54 beads. How many necklaces of 9 beads can she make?



So, 6 necklaces of 9 beads can be made.

C. Find the quotient by repeated subtraction method.

1. $36 \div 6$

$$36 - 6 = 30, 30 - 6 = 24, 24 - 6 = 18, 18 - 6 = 12, 12 - 6 = 6, 6 - 6 = 0$$

So, There are 6. It shows that 6 can be subtracted 6 times from 36.

(ii) $96 \div 16$

$$\begin{array}{r} 96 \\ -16 \rightarrow \textcircled{1} \\ \hline 80 \\ -16 \rightarrow \textcircled{2} \\ \hline 64 \\ -16 \rightarrow \textcircled{3} \\ \hline 48 \\ -16 \rightarrow \textcircled{4} \\ \hline 32 \\ -16 \rightarrow \textcircled{5} \\ \hline 16 \\ -16 \rightarrow \textcircled{6} \\ \hline 0 \end{array}$$

$$96 \div 16 = 6$$

Exercise 4.2

A. Find the quotient and the remainder, if any.

1. $38 \div 2$

$$\begin{array}{r} 19 \\ 2 \overline{) 38} \\ -2 \downarrow \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$$

So, $38 \div 2 = 19$
Quotient = 19
Remainder = 0

2. $565 \div 5$

$$\begin{array}{r} 113 \\ 5 \overline{) 565} \\ -5 \downarrow \\ \hline 06 \\ -5 \downarrow \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

So, $565 \div 5 = 113$
Quotient = 113
Remainder = 0

3. $9432 \div 7$

$$\begin{array}{r} 1347 \\ 7 \overline{) 9432} \\ \underline{-7} \downarrow \\ 24 \\ \underline{-21} \downarrow \\ 33 \\ \underline{-28} \downarrow \\ 52 \\ \underline{-49} \\ 03 \end{array}$$

Quotient = 1347

Remainder = 3

B. Divide and check your answer.

1. $42 \div 3$

$$\begin{array}{r} 14 \\ 3 \overline{) 42} \\ \underline{-3} \downarrow \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

Check: Quotient $\times$ Divisor +
Remainder = Divident

$14 \times 3 + 0 = 42 = \text{Divident.}$

Ans, $Q = 14, R = 0$.

2. $8437 \div 8$

$$\begin{array}{r} 1054 \\ 8 \overline{) 8437} \\ \underline{-8} \downarrow \downarrow \\ 043 \\ \underline{-40} \downarrow \\ 37 \\ \underline{-32} \\ 05 \end{array}$$

Check: $Q \times D + R$

$= 1054 \times 8 + 5$

$= 8432 + 5$

$= 8437 = \text{Divident}$

Ans, $Q = 1054, R = 5$

3: $4040 \div 3$

$$\begin{array}{r} 1346 \\ 3 \overline{) 4040} \\ \underline{- 30} \\ 10 \\ \underline{- 9} \\ 14 \\ \underline{- 12} \\ 20 \\ \underline{- 18} \\ 2 \end{array}$$

Check: $1346 \times 3 + 2$
 $= 4038 + 2$
 $= 4040 = \text{Divident}$

Ans, Quotient = 1346
Remainder = 2

Division by 10, 100 and 1000

Division by 10 $\rightarrow$ When a number is divided by 10, the digit in the ones place makes up the remainder and the rest of the digits make up the quotient.

Division by 100 $\rightarrow$ When a number is divided by 100, the digits in the tens and ones places make up the remainder and the rest of the digits make up the quotient.

Division by 1000 $\rightarrow$ When a number is divided by 1000, the digits in the hundreds, tens and ones places make up the remainder and the rest of the digits make up the quotient.

Finding Estimated Quotient

Round off the numbers to estimate the quotient.
This will give a rough idea of the exact quotient.

Exercise 4.3

A. Find the quotient and the remainder without doing long division.

1. $1350 \div 10$

$$\begin{array}{r} 135 \\ 10 \overline{) 1350} \\ \underline{-10} \downarrow \\ 35 \\ \underline{-30} \downarrow \\ 50 \\ \underline{-50} \\ 0 \end{array}$$

Ans. $Q = 135, R = 0$

2. $4109 \div 100$

$$\begin{array}{r} 41 \\ 100 \overline{) 4109} \\ \underline{-400} \downarrow \\ 109 \\ \underline{-100} \\ 09 \end{array}$$

Ans $Q = 41, R = 9$

3. $1005 \div 1000$

$$\begin{array}{r} 1 \\ 1000 \overline{) 1005} \\ - 1000 \\ \hline 5 \end{array}$$

Ans:- $Q = 1$, $R = 5$

B. Fill in the table and estimate the quotient.

		Rounded off to the nearest 10 or 100	Estimated quotient	Exact quotient
1.	$78 \div 18$	$80 \div 20$	4	4
2.	$289 \div 69$	$300 \div 70$	4	4
3.	$753 \div 29$	$800 \div 30$	26	25