

# Division

## Basics of Division

We can say division is a process by which equal amount of distribution can be done among a group and it is denoted as '÷'. Let's have a look at some examples.

**Example 1.** 25 chocolates are there, it must be distributed equally among 5 boys. How many chocolates each boy should get?



**Solution.** No. of chocolates each boy will get = Total number of chocolates ÷  
Number of boys  
=  $25 \div 5$

We must find out in 5 tables where 25 comes i.e.  $5 \times 5 = 25$

That means  $25 \div 5 = 5$

Each boy should get 5 chocolates.

From the above example we conclude that division can be done using tables.

## 2-Digits Division

Lets' know another way of dividing numbers.

**Example 1.**  $72 \div 4$

**Solution.**

Step 1.

Start with tens place first.

$$7 \text{ tens} \div 4 = 1 \text{ ten}$$

Write 1 ten above 7.

$$\begin{array}{r} 1 \\ 4 \overline{) 72} \\ \underline{- 4} \end{array}$$

Step 2. Subtract 4 from 7.

$$7 \text{ tens} - 4 \text{ tens} = 3 \text{ tens}$$

$$\begin{array}{r} 1 \\ 4 \overline{) 72} \\ \underline{- 4} \\ 3 \end{array}$$

Step 3.

Bring down 2 from ones place.

$$3 \text{ tens} + 2 \text{ ones} = 32$$

$$\begin{array}{r} 1 \\ 4 \overline{) 72} \\ \underline{- 4} \\ 32 \end{array}$$

Step 4.

Divide 32 by 4. In other words, we must find out in 4's table, where 32 comes.

$$4 \times 8 = 32$$

$$32 \div 4 = 8$$

8 goes to the ones place. Subtract 32 from 32.

$$32 - 32 = 0$$

So,  $72 \div 4 = 18$

$$\begin{array}{r} 18 \\ 4 \overline{) 72} \\ \underline{-4} \phantom{2} \\ 32 \\ \underline{-32} \\ 0 \end{array}$$

Here 72 is known as dividend, 4 is known as divisor and 18 is known as quotient.

$$\begin{array}{r} 18 \longrightarrow \text{Quotient} \\ 4 \overline{) 72} \longrightarrow \text{Dividend} \\ \underline{-4} \phantom{2} \longrightarrow \text{Divisor} \\ 32 \\ \underline{-32} \\ 0 \longrightarrow \text{Remainder} \end{array}$$

### 3-Digits Division

It is similar to the 2-digit division. Let's have a look at some examples.

**Example 1.**  $456 \div 3$

**Solution.**

$$\begin{array}{r}
 152 \\
 3 \overline{) 456} \\
 \underline{-3} \phantom{00} \\
 15 \phantom{0} \\
 \underline{-15} \phantom{0} \\
 06 \\
 \underline{-6} \\
 0
 \end{array}$$

Step 1.

Start with hundreds place first.

$$4 \text{ hundreds} \div 3 = 1 \text{ hundred}$$

Write 1 hundred above 4.

Step 2.

Subtract 3 from 4.

$$4 \text{ hundreds} - 3 \text{ hundreds} = 1 \text{ hundreds}$$

Step 3.

Bring down 5 from tens place.

$$1 \text{ hundreds} + 5 \text{ tens} = 10 \text{ tens} + 5 \text{ tens} = 15 \text{ tens}$$

Divide 15 by 3. In other words, we must find out in 3's table, where 15 comes.

$$3 \times 5 = 15$$

$$15 \div 3 = 5$$

5 goes to the tens place of quotient. Subtract 15 from 15 i.e.  $15 - 15 = 0$

Step 4.

Bring down 6 from ones place of dividend.

$$6 \div 3 = 2$$

2 goes to the ones place of quotient.

$$\text{So, } 456 \div 3 = 152$$

**Example 2.**  $675 \div 5$

**Solution.**

5	6	7	5
	5	7	5
	1	7	
	1	5	
	2	5	
	2	5	
			0

So, the answer is 135.

### Division With Remainder

Let's assume we have 6 chocolates and we have to divide it among 5 children equally. If we give one chocolate to each child, then 5 chocolates will be over, and 1 chocolate will remain with us. Let's go through some examples given below.

**Example 1.**  $75 \div 4$

**Solution.**

$$\begin{array}{r}
 18 \\
 4 \overline{) 75} \\
 \underline{-4} \phantom{0} \\
 35 \\
 \underline{-32} \\
 3 \phantom{0} \longrightarrow \text{Remainder}
 \end{array}$$

Here 75 is dividend, 4 is divisor, 18 is quotient and 3 is remainder.

**Example 2.**  $93 \div 5$

**Solution.**

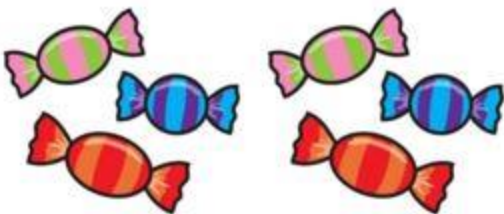
$$\begin{array}{r}
 18 \\
 5 \overline{) 93} \\
 \underline{-5} \phantom{0} \\
 43 \\
 \underline{-40} \\
 3
 \end{array}$$

Here 93 is dividend, 5 is divisor, 18 is quotient and 3 is remainder.

**Word Problem**

In our day to day life division is used to solve different problems. Let's have a look at some examples.

**Example 1.** Divide 65 chocolates among 5 girls. How many chocolates each girl will get?



**Solution.** Total number of chocolates = 65

Number of girls = 5

Each girl will get = Total number of chocolates  $\div$  Number of girls  
 $= 65 \div 5$

